Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

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Practical Pharmacy Edition

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WHAT'S HAPPENING TO THE PHARMACY CORPS?

WHAT'S happening to the Pharmacy Corps down in Washington? The merits of events now taking place on Capitol Hill will become a favorite subject of debate. Congressional hearings are under way on the latest version of the Army's Medical Service Corps bill (H.R. 1982). Although the Committee on Status of Pharmacists in Government Service has emphasized that pharmacists strongly favor retention of the present Pharmacy Corps, it has decided not to oppose the measure if proposed amendments are made. We believe the Committee acted wisely in view of the situation that confronted it.

It is well to be as realistic about military pharmacy as about the operation of our own pharmacies. A fancy name does not make up for a poorly staffed, badly managed pharmacy. What most of us have been somehow hesitant to admit is that under the present law the impressive Pharmacy Corps apparently will not do the job we want done. Granted that the law is the best that could be obtained back in 1943. But it must also be granted that even the full complement of 72 pharmacy officers authorized could hardly rise above the law's limitations without active interest and support from "management," the Surgeon General. Such support seems a dim prospect indeed.

Congressional friends of pharmacy point out that the new Congress has brought to key positions men who are inclined to go along with the War Department proposals. And the War Department is solidly behind the proposed merger of the Pharmacy Corps with a Medical Service Corps.

This situation led the Committee to take a longer look at the Medical Service Corps bill. Could this proposal as offered be approved by organized Pharmacy? After an all-day conference recently the Committee's answer was "no." This brought another important conference with the Surgeon General, at which a Committee delegation presented a four-point counterproposal.

Here is how the Surgeon General offered to meet the four objections of the Committee through amendments to the bill:

1. It will be specified that a pharmacist shall be the chief of the Pharmacy Section.

2. The numerical strength of the Pharmacy Section will be specified as 60% of the total authorized strength of the Medical Service Corps.

3. Need for educational requirements in the Pharmacy Section will be filled by requiring that at least 30% of those appointed to the Pharmacy Section annually will be graduates of recognized schools of pharmacy, if there are enough qualified applicants.

4. Failure to spell out in the bill the functions of pharmacy officers will be met by the Surgeon General through a statement to be read into the Congressional hearings, instead of an amendment. This is scheduled to be a reiteration of his previously announced pharmacy program, as announced in THIS JOURNAL, August 1946.

In justifying provision (4) the Surgeon General logically points out that no Army or Navy legislation specifies duties of commissioned officers. His published statement seems entirely adequate and his willingness to place it in the Congressional record has the earmarks of good faith.

At face value the provision under (3) appears less reassuring. Does a provisional guarantee that 30% of the appointees, after the first integration, will be pharmacy graduates make it in fact a *Pharmacy* Section equipped to provide the best pharmaceutical service? The Committee is insisting that this proviso be raised from 30% to 80%. As this is being written the Committee seems in a fair way to obtain this or some other adequate concession.

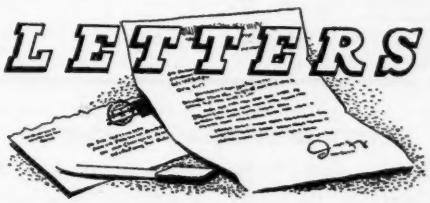
In considering this question we must recognize that the Regular Army has been unable to obtain sufficient graduate pharmacists for integration from the A. U. S. This apparently makes the Surgeon General wary of obligations to obtain only pharmacists for personnel or none at all. Secondly, with a pharmacist at the head of the Section we may expect that the needs and objectives of military pharmacy would be kept constantly in mind. Finally, the Pharmacy Section would have broad responsibilities for administration and supply. Personnel for such work must include officers trained in law, statistics and many other skills. While the Surgeon General reportedly is willing to train pharmacists for such specialized assignments in the Pharmacy Section, other personnel also may be indicated.

The Committee's record to date adds up to a great deal of progress in negotiations between pharmacy and the Office of the Surgeon General. If, as now seems likely, the Pharmacy Corps will become a Pharmacy Section it appears to mean better, more adequate Army pharmacy.

DEBATE CONTINUED

Sirs:

After a re-reading of the editorial "Super Sabotage" in the October issue I want you to know that I fully agree with the statements made therein. I do not agree with Mr. Mercier, whose letter appears in the December issue. Your editorial, like many others, was a good one, and you had a right to have it as it appeared in the JOURNAL.



There are too many articles being sold in drugstores that should not be sold in drugstores, and there are too many people engaged in pharmacy both as pharmacists and non-pharmacists whose main interest is not in the practice of pharmacy as a profession but in merchandising. Their main interest is volume of sales, and still greater volume of sales without caring from what class of merchandise it comes.

There is one so-called super drugstore in this city that has thousands of square feet of floor space on the street level, in which thousands of different kinds of sundries are sold. In the basement there is a women's wear department.

. . .I want you to know that you have my support in your efforts to raise the standards of pharmacy. A postal note for my membership is enclosed.

Los Angeles, Calif. CHARLES W. PARSONS

REFLECTIONS OF A PHARMACIST

Sirs:

I read Mr. Knut M. Sjoberg's article in the December issue with much interest. Since I came to the United States from Europe, was subsequently schooled here and am at present a pharmacist in a retail establishment, I wonder what meaning this article may have for my colleagues in this country.

We over here boast of being the most progressive country in the world. The very fact that in the recent struggle our heroic forces won, due in great part to our rapid advance in technology, emphasizes the proof that no other country was able to excel us. Yet, speaking as a pharmacist actively engaged in the practice of my profession, I must ask myself fifteen years after I have left the lecture halls of my alma mater: Are we making progress in pharmacy or are we going backward? True enough our average pharmacy of fifty years ago was a rather dingy place. Today, in contrast, our retail pharmacy is bright with fluorescent lights, stocked with merchandise up to the ceiling—everything under the sun. . . But where did the prescription department go in this unheard of struggle for mere existence?

Let's be truthful about the whole matter and as self-respecting pharmacists stand up to a little self-criticism. I and thousands of others are not prophets of doom, but we would like to have things change so they will be a little better, not only for those of us who look to pharmacy as a profession allied with the other progressive sciences of the world but for the public as well, which depends on us.

Are we here in America so possessed by selfish interests and greed that many of us consciously try to undermine the most important feature of our profession: untiring service as guardians of the public health? How can we fulfill this mission adequately with "supermarket," "grocery store," or "five and ten cent store" ideas in our midst? Of course these are lucrative and appealing to the average mind. They represent those who use pharmacy for the sole purpose of prestige.

I could go on condemning evils that are gnawing at the structure of retail pharmacy. Yet, I do not believe in the extremes of pessimism, nor do I believe that we are standing on the brink of an abyss. But may I ask why, if we are the wealthiest and most prosperous country in the world, can't we have a system like our colleagues in Sweden? Is it because we are "too wealthy" to afford it? Or, may I be bold enough to ask: Is it because of our very laudable "free enterprise" system of economy that will allow a drugstore on every corner with predatory and wasteful competition but will not permit a sort of "selective" system on the order of the one in Sweden, where pharmacists become successful and outstanding members of their profession because of their scientific aptitude rather than because of superior business cunning?

I am only a member of the rank and file in retail pharmacy who believes in the bright future of the profession; one, who believes in the numerical and intellectual strength of our great organization, the AMERICAN PHARMACEUTICAL ASSOCIATION, which in the years to come should gain increased support of its high standards, free the profession of pharmacy from commercial strife and raise it to the higher professional level to which it is entitled.

Easton, Pa. KARL FREUD

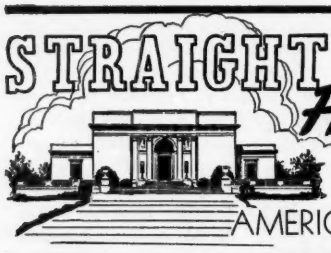
HOSPITAL PHARMACY REGULATIONS

Sirs:

I have just read your interesting survey on the regulation of hospital pharmacy published in the December issue of the PRACTICAL PHARMACY EDITION. Even though many of the Boards indicate that they have adequate regulatory powers, I wonder how much of this is a reality. For example, Ohio says "yes" to question 5, yet I know more than one hospital in the vicinity of Cleveland that does not have a pharmacist in charge.

This survey should bring such things to the fore more quickly.

Cleveland, Ohio. EVLYN GRAY SCOTT



STRAIGHT FROM HEADQUARTERS

by ROBERT P. FISCHELIS, Secretary
AMERICAN PHARMACEUTICAL ASSOCIATION

SERVICES OF PROFESSIONAL SOCIETIES

THE services of any professional society to its members are limited directly by the funds available to effectuate its functions. For many years the AMERICAN PHARMACEUTICAL ASSOCIATION depended to a very large extent upon volunteer effort to carry on the major activities which the objectives of the ASSOCIATION called for. Such an extraordinary effort as the preparation of the annual "Report on the Progress of Pharmacy" —which later became a major portion of the volume of "Proceedings" and still later developed into the Abstract Section of the present JOURNAL (*Scientific Edition*)—was a voluntary contribution, and was remunerated by a so-called honorarium that was shamefully inadequate. Other scientific and professional societies have operated in a similar fashion in the past. As a result, the quality and quantity of work performed by these organizations depended upon the conscience and available time of the man or woman who undertook the job.

Volunteer Service No Longer Adequate

Today professional and scientific societies operate in a more business-like fashion. And while we still expect considerable volunteer work, and receive it in ungrudging measure from many association workers, it is generally recognized that the publication of journals and reports which appear in book or pamphlet form today involves the services of paid editors and editorial assistants. Furthermore, the preparation of rosters of membership, the collection and recording of dues payments, the issuance of membership cards and various other services that members expect from the office of an association secretary cannot be supplied without the employment of clerical and secretarial help.

We have come a long way from the volunteer service stage in the development of the activities of the AMERICAN PHARMACEUTICAL ASSOCIATION. When the ASSOCIATION erected its own building in Washington, it took on an obligation for the upkeep and the use of that building in the interest of American pharmacy as a whole, as well as of the members of the AMERICAN PHARMACEUTICAL ASSOCIATION. No great endowment had been provided from which operating funds could be drawn. It was expected that each generation of pharmacists and members of the AMERICAN PHARMACEUTICAL ASSOCIATION would arrange to provide the necessary funds for the operation of the building and possible expansion of the activities carried on there, in proportion to the services required.

We know of a certain state medical society that annually requests its officers and committees to submit to the finance committee a record of its proposed activities for the coming year and the estimated cost of those activities. The finance committee, in turn, prepares a budget listing all of the proposed expenditures together with the known overhead required to supply the normal services of the society. The sum of the proposed expenditures for the coming year is then divided by the number of members and the annual dues are determined on this basis. If the governing body of the society decides that the proposed dues for the coming year are too high they instruct the finance committee to reduce the budget to a figure which the membership considers proper. The finance committee must then proceed to trim the activities which have been proposed so as to reduce the expenditures, and the members, in the end, get exactly what they pay for.

With some modifications, this is the business-like procedure to be followed by any organization that intends to remain solvent, give necessary services and keep its members satisfied.

The A. Ph. A. Budget

At this time of the year, it becomes the function of the Finance Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION to report a budget to the Council. That budget must list all

anticipated income and it must also list all anticipated expenditures. The ASSOCIATION's income is derived from membership dues, subscriptions to the JOURNALS, sales of publications, such as the National Formulary and Pharmaceutical Recipe Book, sales of advertising in its JOURNALS, income from invested funds, and contributions.

Expenditures incurred by the ASSOCIATION include salaries of full-time officers and technica staff; maintenance of its building and laboratory; editorial and publication expense; clerical, secretarial, and maintenance expense; supplies, materials, and equipment.

Costs of all of the foregoing have increased greatly, and it has been almost impossible for those in charge of the finances of the ASSOCIATION to anticipate these increases to the extent of regulating the selling price of publications or the rates for advertising sufficiently to balance the budget in all respects.

Members of the ASSOCIATION have always received more services than could be purchased with their dues. It has been shown quite conclusively that members of professional societies are willing to pay for services adequately rendered. The AMERICAN PHARMACEUTICAL ASSOCIATION is no exception. When it became evident that increased services could be had only by increasing the dues, the members of the ASSOCIATION voted to increase the dues.

Increase in Annual Dues

At the Pittsburgh convention in 1946 the By-Laws were amended to authorize the Council to fix the annual dues. President Moulton recommended what other presidents had also recommended before him, namely, that the dues be increased to $10 per year. The Council, following the amendment to the By-Laws, fixed the dues for all who join after July 1, 1947 at $10. At the same time, the By-Laws were amended to provide that the membership year for each member shall run for twelve months from the date on which he or she officially becomes a member. This means that all members of the ASSOCIATION whose dues became due on January 1, 1947 will receive all of the services of the ASSOCIATION up to December 31, 1947 by the payment of $5 provided they do not become delinquent. After July 1, 1947, the dues will be $10.

We feel certain that the membership in general will welcome the opportunity of making it possible for the ASSOCIATION to improve its services and to increase them by the payment of the increased dues. Even with the increase, the dues paid will meet only a portion of the expense for conducting the business of the ASSOCIATION but the larger revenue from this source will go far toward maintaining the ASSOCIATION's services at a high level of efficiency.

Dividends on the investment in annual dues paid to a professional society are not always tangible because they cannot be measured in dollars. Maintaining the prestige of American pharmacy, classifying the profession in a sound position in the field of public health, increasing its influence in governmental, institutional and professional circles, and reflecting credit upon the members of the profession because of the activities made possible at the headquarters building of the AMERICAN PHARMACEUTICAL ASSOCIATION constitute the intangible assets from which very tangible benefits are derived by every member.

In addition to these intangible assets, members will receive the publications of the ASSOCIATION consisting of both the *Practical Pharmacy* and *Scientific Editions* of the JOURNAL, all supplements to the National Formulary, and the services of the headquarters staff in answering questions and supplying professional information.

As the program of the ASSOCIATION develops, we feel confident that the members will take even greater pride in their affiliation with an organization that can supply so much for so little.

EDUCATION ON ANIMAL EXPERIMENTATION

THE antivivisectionists are at it again. Immediately upon convening of the new Congress, several bills were introduced to make it unlawful to carry on experiments on dogs regardless of the importance of such experiments to the health of human beings. It behooves every pharmacist to explain to laymen with whom he comes in contact, and who may be misinformed through the propaganda of antivivisectionists, that animal experimentation is essential in order to promote the progress of science in the field of pharmacology and therapeutics. It is only by supplying adequate and accurate information to the public that the pressure of minority groups subject to fanatical or demogogic leadership can be counteracted. More will be heard about this from various sources in the coming months but it is essential that pharmacists everywhere be on their guard and give aid to science by joining with other professional groups in combatting the menace of public ignorance on this important subject.

AIDS FOR
PARTICIPATING IN PHARMACY WEEK

EXPANDED PROGRAM DEDICATED TO HEALTH EDUCATION OFFERS MANY AIDS TO PUBLIC RELATIONS FOR THE PRACTICING PHARMACIST

"IT IS essential to unite all pharmaceutical interests in a great movement for public information. . . A National Pharmaceutical Week could be inaugurated. Public health should be the keynote." Thus Robert J. Ruth, founder of National Pharmacy Week, envisioned this now traditional observance. He was addressing the Section on Practical Pharmacy and Dispensing of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1924. Since that time National Pharmacy Week has been of growing significance to the practicing pharmacist. At no time have we more nearly fulfilled Pharmacist Ruth's vision than in the forthcoming observance, April 20–26, which will be dedicated to public education in the field of cancer control.

The National Pharmacy Week Committee believes the 1947 observance will be universally recognized as a service to citizens of the community and the nation. Inquiries already received by the Committee reflect keen interest in the program by pharmacists throughout the country.

Every pharmacy in the United States has been sent a folder describing the program and a business reply card to request display material. Those who have not yet returned the card should do so at once to be placed on the mailing list. If your reply card has been misplaced, write a note to the National Pharmacy Week Committee, 2215 Constitution Ave., N. W., Washington 7, D. C., pledging your support and requesting display material.

In addition to use of the official display and original professional displays for entry in the national competition (discussed on page 63) there will be a broad program of participation.

With the official display, sent without charge on request, pharmacists will also receive:

1. A supply of National Pharmacy Week leaflets for distribution to patrons. Pointing out the importance of the pharmacist's service in dedicating National Pharmacy Week to public education on cancer control, the text of the leaflet will place in the hands of your patrons facts that can reduce the death toll of cancer.

2. A colorful counter card, 7 by 12 inches in size, for use with the leaflets.

3. A packet of National Pharmacy Week stamps, which may be used on packages, letters, or with professional advertising copy as a paste-in.

Many suggestions on additional ways in which community pharmacists may take advantage of the expanded national program are contained in the Participation Guide. This is included in the list of additional materials available, shown on the order blank.

In the field of radio, network broadcasts will inform the public of the pharmacist's modern con-

(Continued on page 62)

Clip and Mail This Order Form Today

CHECK YOUR 1947 PHARMACY WEEK NEEDS

✓ BROADCASTS ✓ PARTICIPATION GUIDE ✓ ADDRESSES

✓ REPRINTS OF FORMER DISPLAYS

National Pharmacy Week Committee
2215 Constitution Ave., N. W.
Washington 7, D. C.

_____
(Date)

Please send me the National Pharmacy Week material checked below. It is understood that any four items will be sent without charge. Ten cents is enclosed for each item checked in **excess of four items.**

ADDRESSES

- ☐ 1. Behind the Scenes in Your Corner Pharmacy
- ☐ 2. The Search for Drugs Against Disease
- ☐ 3. The Romance of Foxglove (especially suitable for garden and botanical clubs)
- ☐ 4. Famous Discoveries by Famous Pharmacists
- ☐ 5. The Pharmacist—Then and Now
- ☐ 6. Drugs of the Scriptures (especially suitable for church groups)
- ☐ 7. Reflections in the Pharmacist's Show Globe
- ☐ 8. The Pharmacist in Literature
- ☐ 9. Pharmacy Through the Centuries
- ☐ 10. The Hospital Pharmacist—Unseen But Indispensable
- ☐ 11. Pharmacy—A Modern Career in the Health Field (especially for high school groups)

RADIO

- ☐ 12. Script—The Search for New Drugs (15 minutes; one person and announcer)
- ☐ 13. Script—New Drugs in the Pharmacy (15 minutes; two persons and announcer)
- ☐ 14. Script—A Visit with Your Pharmacist (5 minutes; one person and announcer)
- ☐ 15. Series of professional spot announcements

PARTICIPATION GUIDE

- ☐ 16. Participation Guide—Contains display suggestions, professional copy for advertisements, suggested news story and editorial, model proclamations for local officials.

DISPLAY REPRODUCTIONS

- ☐ 17. Reprints of some former Pharmacy Week displays.

DISPLAY MATERIAL

If you have not yet returned the request card for Pharmacy Week display material, which was sent to all pharmacies by direct mail, it is urgent that you do so at once. Display material will be shipped without charge early in April.

Name.....

Street & Number.....

City & State.....

Remittance enclosed (if more than four items): .....

tributions to medical care and the dedication of National Pharmacy Week to the health education program for cancer control. Professional announcements will also be given on regular sponsored programs. Scripts and spot announcements for local use are available from the Committee on request.

The President of the United States and the Surgeon General of the Public Health Service are both expected to issue statements to the AMERICAN PHARMACEUTICAL ASSOCIATION on the occasion of Pharmacy Week. Information will be supplied to the syndicated news services. Suggested editorial and news material and copy for professional advertisements for use in local community papers will be found in the Participation Guide.

Many pharmacists have found National Pharmacy Week an opportune time to hold "open house" in their prescription departments, showing some of the newer drugs and how they are compounded into various forms for administration to the patient.

As in observances of past years many pharmacists will be speaking before civic clubs, educational and science groups, and other public gatherings, on some phase of pharmacy. College faculties are being asked to cooperate with local pharmaceutical organizations wherever possible to assist on programs. Material for use in talks will be found listed in the order form for obtaining various participation aids.

These and other phases of the National Pharmacy Week program bring to the attention of the public the service of the corner pharmacy as a community health center. Of even greater importance, the National Pharmacy Week Committee points out, is the major contribution that pharmacists will make to public education on the control of cancer, a disease that now strikes one out of eight Americans sometime in the course of their lives.

Commenting on the response of pharmacists to date, Chairman Tom D. Rowe of the National Pharmacy Week Committee said: "We should not be surprised at the enthusiasm and wholehearted cooperation that pharmacists are bringing to the new Pharmacy Week program. This year's observance gives us an opportunity to demonstrate the pharmacist's role in health education. A great many pharmacists have done this consistently and well, but usually independently and locally. During April 20 to 26 we shall make a coordinated contribution to the fight against cancer. I believe there are few pharmacists who will fail to support such an endeavor, especially when, in so doing, the pharmacist will be linking his pharmacy and his profession in the public mind with events of great public health significance."

Serving with Chairman Rowe on the 1947 National Pharmacy Week Committee are Walter M. Chase, Detroit; John W. Dargavel, Chicago; Robert P. Fischelis, Washington; Jean Henderson, Washington; Bert Mull, Indianapolis; and Glenn Sonnedecker, Washington.

PLAN NOW TO PARTICIPATE IN PHARMACY WEEK
1947
APRIL
1947
SUN. MON. TUES. WED. THUR. FRI. SAT.
1 2 3 4 5
6 7 8 9 10 11 12
20 21 22 23 24 25 26
A PROGRAM FOR THE PRACTICING PHARMACIST

YOUR PHARMACY WEEK DISPLAYS

SHOW windows express to the public the character of your pharmacy. Every week, but especially during National Pharmacy Week, pharmacists should assure themselves that their windows reflect professional service. Every pharmacy in the United States has been sent a descriptive folder on the National Pharmacy Week observance, April 20–26, and a business reply card to request the official display.

The National Pharmacy Week Committee asks pharmacists to obtain and use the display reproduced on the front cover of this issue. The display will be 37 by 39½ inches in size, in full color, and mounted on heavy card stock. Displays will be shipped early in April.

In addition to using the official display pharmacists are urged to install an original display for entry in the national competition. There are three categories in which awards are made:

1. Retail pharmacy, displays by practicing pharmacists.

2. College displays by pharmacy students.

3. Public displays and exhibits, in places other than a pharmacy installed by any pharmacist or group of pharmacists. This includes hospital pharmacists, local and state pharmaceutical associations, branches of the AMERICAN PHARMACEUTICAL ASSOCIATION, etc.

The cooperation of each pharmacist in installing Pharmacy Week displays, April 20–26, represents an important part of the public relations value of the observance. Complete rules for the three divisions of the display competition are printed on the next page.

Based on entries in the National Pharmacy Week display competition of former years, a guide to more effective displays may be summed up in two fundamentals: (1) Don't overcrowd. (2) Decide on a central theme and don't try to express more than one idea in the few seconds granted by the sidewalk audience.

Be sure your display complies with other obvious but sometimes overlooked fundamentals: cleanliness, neatness, orderliness. A good display has a focal point of interest, usually the largest unit in the window. This may be in the center of the window with small units in balance on either side. Or the focal point may be on one side with several subsidiary units providing balance in the remainder of the window.

Lights are usually most effective placed high and out of sight. Tests on comparable windows have shown that the most brilliantly lighted window will stop by far the largest number of pedestrians.

Show cards should be brief, nontechnical and to the point. Legends must be quickly and easily read. Crudely lettered show cards are not economical. A poorly lettered sign can ruin an otherwise productive and effective display.

In selecting materials to carry out the theme everything that does not help to express the central idea should be omitted. Some of the most striking and forceful windows are extremely simple in basic design.

A word of warning: Do not use any display material or signs which contain the advertising of a manufacturer. Because of the purely professional nature of National Pharmacy Week such material disqualifies a display under the rules of the competition.

The observance April 20–26 has a twofold purpose: (1) To contribute to the important health problem of cancer control; (2) To call attention to the pharmacist's professional service and his interest in health education. Devoting your windows to the official display and an original professional exhibit will both support and take advantage of the broad over-all 1947 National Pharmacy Week program described elsewhere in this issue.

RULES FOR NATIONAL PHARMACY WEEK DISPLAY COMPETITION

GENERAL RULES

1. Pharmacy Week exhibits or window displays should convey a message that will inform the public of the professional character and service of pharmacy.

2. Photographs of Pharmacy Week exhibits or window displays submitted for judging shall be considered on the basis of:

(*a*) The value and effectiveness of the message to the public.

(*b*) The professional character of the display.

(*c*) Originality.

(*d*) The arrangement and details.

3. Pharmacy Week exhibits or window displays containing any commercial advertising will not be accepted in the competition.

4. Pharmacy Week displays that have been entered in former years are ineligible.

5. Photographs must be of displays that were actually installed on or before the beginning of Pharmacy Week and remained on display for at least the entire period of National Pharmacy Week, April 20–26, 1947.

6. Photographs submitted should be 8 by 10 inches in size, or some other suitable size, so that the judges will be able to study details of the display. Glossy prints are preferable.

RULES FOR RETAIL PHARMACY COMPETITION

1. General Rules 1 to 6, inclusive, apply to this competition, which is limited to displays in retail pharmacies.

2. Photographs of window displays must be submitted to the secretary of the respective state pharmaceutical associations on or before May 26, 1947, labeled on the back of the photograph as an entry in the Retail Pharmacy Competition.

3. Each state association shall appoint a judging committee at some date prior to May 26, 1947, and this committee will meet and select the best display within the state. A photograph of that display shall be mailed to the National Pharmacy Week Committee not later than June 26, 1947. Entries mailed after that date will not be accepted in the national competition.

4. Only the state winner from each state may be entered in the national competition.

5. As soon as possible after June 26, 1947, a national committee of judges will select the best six displays from the states. The best display in this group will be awarded the Robert J. Ruth trophy and the others will be awarded certificates of merit.

RULES FOR PUBLIC EXHIBIT COMPETITION

1. General rules 1 to 6, inclusive, apply to this competition.

2. Displays or exhibits in the Public Exhibit Competition must be installed in a public place other than a retail pharmacy or pharmacy college. One entry may be submitted by any pharmacist or group of pharmacists, including hospital and retail pharmacists, state and local associations, and A. PH. A. branches.

3. Photographs of exhibits or displays must be submitted to the secretaries of the respective state pharmaceutical associations on or before May 26, 1947, labeled on the back of the photograph as an entry in the Public Exhibit Competition.

4. Each state association shall appoint a judging committee at some date prior to May 26, 1947, and this committee will meet and select the best display within the state. A photograph of that display shall be mailed to the National Pharmacy Week Committee not later than June 26, 1947. Entries mailed after that date will not be accepted in the national competition.

5. Only the state winner from each state may be entered in the national competition.

6. As soon as possible after June 26, 1947, a national committee of judges will select the best three displays submitted. The best display in this group will receive the A. PH. A. Award, which shall be a loving cup or other suitable trophy, and the others will receive certificates of merit.

RULES FOR PHARMACY COLLEGE COMPETITION

1. General Rules 1 to 6, inclusive, apply to the college competition, which is limited to displays or exhibits installed by pharmacy students at the college or other public place on the campus.

2. Only one photograph from each college may be entered.

3. Photographs of displays shall be mailed to the National Pharmacy Week Committee, 2215 Constitution Avenue, N. W., Washington 7, D. C., on or before June 26, 1947. Entries mailed after that date will not be accepted in the competition.

4. As soon as possible after June 26, 1947, a national committee of judges will select the best three displays from the colleges. The best display in this group will receive the A. PH. A. Award, which shall be a loving cup or other suitable trophy, and the others will receive certificates of merit.

A NEW LINIMENT . . .
EMULSION OF METHYL SALICYLATE

by HARRY L. KENDALL* and H. GEORGE DEKAY†

MOST SATISFACTORY FORMULA DESCRIBED ON BASIS OF TESTS WITH 45 EMULSIFYING, WETTING AND DISPERSING SUBSTANCES

PHARMACOLOGIC tests by Brown and Scott have shown that the maximum absorption of methyl salicylate occurs from a 11.8% *v/v* suspension of methyl salicylate in water.

It is desirable to have such a suspension made up in emulsion form which will be stable for a long period of time so that it may be kept in stock and dispensed as needed. To obtain such an emulsion, our experiments were undertaken with the following objectives in mind:

1. To obtain a 12% *v/v* emulsion of methyl salicylate in water, preferably *o/w* type.
2. Such an emulsion should have the following properties: (*a*) mobile, (*b*) white in color, (*c*) absence of creaming, (*d*) non-greasy, (*e*) not sticky, (*f*) not leave a powdery substance on the skin, and (*g*) inexpensive to make.

Experimental

Samples of 100 cc. were prepared, using a total of approximately forty-five emulsifying agents, wetting agents, dispersing agents, and emulsion stabilizers, singly and in various combinations. Each sample was observed at the time of preparation and at various intervals afterward. Samples that seemed to be good emulsions, did not cream readily, and had a white color were kept and observed over a long period of time. Finally those that were the best emulsions were tested for the other properties, such as mobility, greasiness, stickiness, and deposition of powder on the skin.

Four of the best samples were stored at temperatures of 35° F., 94° F., and at room temperature (72°–78° F.) for a period of three hundred days.

Discussion of Results

The sample which held up best under the 300-day storage tests was quite thin and mobile, and very white in appearance when made. At 37° F. there was no change in appearance and no creaming after three hundred days.

At 94° F. after thirty days it had creamed considerably but could be shaken up into an emulsion of good appearance which did not separate for about one-half hour. The emulsion gradually became worse. At one hundred and fifty days there was complete separation and an unsatisfactory product.

At room temperature there was very slight creaming at the end of twenty-two days. At one hundred and fifty days the creaming was greater. At three hundred days it was no greater than at one hundred and fifty days. It shook up into a very satisfactory emulsion which was mobile and as white as when originally made.

When the selected preparation is applied to the skin it rubs in well, is not greasy or sticky, and does not leave any powdery substance on the skin. It does not have an odor which is too strong or objectionable. It is inexpensive and easy to make. The formula†† is as follows:

Methyl salicylate	120 cc.
Stearyl alcohol	5 Gm.
Cetyl alcohol	5 Gm.
Glyceryl monostearate	10 Gm.
Distilled water, *q. s.*	1000 cc.

Dissolve the glyceryl monostearate in 200 cc. of distilled water by aid of heat. Remove from heat and allow to cool until it is of smooth, uniform consistency. Dissolve the cetyl and stearyl alcohols in 120 cc. of methyl salicylate on a water bath. Place the cooled glyceryl monostearate solution in a mixer bowl and add the warm oil solution gradually while the mixer is running. Add enough distilled water (while mixer is run-

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†† Ingredients which may not always be available locally are supplied as follows: Stearyl alcohol is a product of the E. I. du Pont de Nemours & Co., Fine Chemicals Div., Wilmington 98, Del. Cetyl alcohol may be obtained from such firms as Givaudan-Delawanna, Inc., 330 W. 42nd St., New York 18, N. Y.; and du Pont's Fine Chemicals Div., Wilmington 98, Del. Glyceryl monostearate is available from suppliers such as The Beacon Co., 97 Bickford St., Boston 30, Mass.; Glyco Products Co., 26 Court St., Brooklyn 2, N. Y.; and the Goldschmidt Chemical Corp., 153 Waverly Place, New York 14.—THE EDITOR

ning) to make 1000 cc. Use only a single mixer. A double mixer whips too much air into the preparation.

Use of Preparation

According to Brown and Scott, the absorption of methyl salicylate may be increased by employing the following general principles:

1. Heat area by application of water as hot as can be tolerated.
2. Apply the medication as hot as can be tolerated.
3. Use intermittent applications of hot water and hot medication.

Summary and Conclusions

1. Experiments were made to formulate a satisfactory emulsion of 12% *v/v* methyl salicylate in water for use as a liniment.
2. The formula for the most satisfactory preparation found is presented with manufacturing directions.
3. Suggestions are given for most effective application of the preparation to the body.

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METHIONINE FOR LIVER INJURY

A REPORT OF THE COUNCIL ON PHARMACY AND CHEMISTRY, AMERICAN MEDICAL ASSOCIATION

A MANUFACTURER has presented a brand of methionine to the Council for inclusion in New and Nonofficial Remedies. The conditions for which methionine has been reported to be beneficial include its use in the prevention and treatment of liver injury due to poisonous agents such as arsenic, chloroform, carbon tetrachloride and trinitrotoluene. In addition, the use of methionine has been recommended in the treatment of eclampsia, shock, infectious hepatitis, and cirrhosis of the liver. The Council has reviewed the available evidence with regard to the value of methionine in these conditions and feels that, although this drug offers some therapeutic promise, further work is necessary before the claims of the manufacturers may be considered to be established.

Various investigators[1] have presented evidence based on animal experiments that liver injury, particularly fatty infiltration, may be produced by dietary deficiencies. Best and Rideout[2] suggested choline as the necessary constituent of the diet to prevent fatty changes of the liver.

Certain chemical agents produce pathologic lesions in the livers of experimental animals closely resembling those seen in human beings with portal cirrhosis. Miller, Ross and Whipple[3] reported that either methionine or cystine would protect dogs against liver damage produced by chloroform. György and Goldblatt,[4] on the other hand, showed that in rats on a low protein diet necrosis or cirrhosis of the liver would develop which could be partially prevented by administration of choline but which was accentuated by the feeding of cystine. Addition of choline or yeast to the cystine diet prevented the liver changes.

Daft, Sebrell and Lillie[5] confirmed the work of György and Goldblatt and found that some protection to the livers of their animals was afforded by addition of choline, methionine, and casein. It was concluded by György and Goldblatt[6] that the cirrhosis produced in animals by a low protein diet could be prevented by a combination of choline and cystine or by methionine alone.

Drill and Loomis[7] have shown that methionine feeding does not decrease the liver damage resulting from carbon tetrachloride poisoning in dogs maintained on a normal protein intake of 20% or 41% casein. In protein-depleted dogs methionine appeared to be responsible for a decrease in the degree of liver damage following carbon tetrachloride poisoning.

It is to be emphasized, however, that the dietary cirrhosis seen in animals is not histologically the same as portal cirrhosis in man[8] and that the animal experiments discussed here, while encouraging, need clinical confirmation by carefully controlled investigations on human patients.

Methionine has been used in the treatment of "postarsenical" liver damage with equivocal results. Beattie and Marshall[9] reported that methionine and cystine would protect patients against liver damage due to arsphenamine; however, critical examination of their data shows that, although the onset may have been delayed slightly by the treatment, the patients did have liver damage. The experiments were inadequately controlled and have been criticized by Peters.[10]

There is no evidence for the value of methionine in eclampsia. A thesis by Rinehart[11] suggests, but does not prove, that this toxemia may be associated with inadequate protein intake. On the basis of this thesis the manufacturers who presented methionine to the Council have suggested that this amino acid will prevent eclamptogenic toxemia.

The clinical evidence for the usefulness of methionine in the treatment of liver injury due to chloroform, carbon tetrachloride, and trinitrotoluene is on slightly firmer ground. Beattie and his associates[12] reported 1 case of acute carbon tetrachloride poisoning in which recovery appeared to be influenced by massive doses of methionine. Eddy[13] has reported a few cases of carbon tetrachloride poisoning treated with a high protein, low fat diet plus 6 to 12 Gm. of methionine daily. No control observations were made, and it is not possible to attribute the beneficial results to the administration of methionine alone, since the diet used is known to have a beneficial action. The same criticism may be made of Eddy's later report[14] on methionine treatment of trinitrotoluene poisoning.

Peters and Croft[15] have suggested the use of methionine for patients with severe burns, since it is known that liver damage frequently occurs in such instances. However, no clinical investigations were reported and their conclusions were based on partially controlled animal experiments.

Although the manufacturers of methionine suggest its use in the treatment of infectious hepatitis, Wilson, Pollock and Harris[16] reported no significant effect on the severity or duration of the disease in patients treated with methionine. A member of the Council who had extensive experience with methionine and infectious hepatitis in the recent war also points out that methionine could not be demonstrated to affect the course of the disease.

The paucity of controlled clinical evidence on the value of methionine in the treatment or prevention of liver injury leads the Council to the conclusion that no claims for this product may be recognized at this time; but in view of the encouraging animal experiments, careful clinical trial of this agent by competent investigators should be made. Until further convincing evidence of the usefulness of methionine in liver disease is available, the Council has deferred acceptance of brands for inclusion in New and Nonofficial Remedies.

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WHAT MAKES A PROFESSION?

IF THERE is such a thing as a profession as a concept distinct from a vocation it must consist in the ideals which its members maintain, the dignity of character which they bring to the performance of their duties, and the austerity of the self-imposed ethical standards. To constitute a true profession there must be ethical traditions so potent as to bring into conformity members whose personal standards of conduct are at a lower level, and to have an elevating and ennobling effect on those members. A profession cannot be created by resolution or become such overnight. It requires many years for its development, and they must be years of self denial, years when success by base means is scorned, years when no results bring honor except those free from the taint of unworthy methods.

—W. A. SHUMAKER
Editor of Law Notes

MASKING BITTER DRUGS

A STUDY OF THE VALUE OF VARIOUS FLAVORING AGENTS

by ELEANOR BOOTHE* and K. L. KAUFMAN†

THIS study was undertaken to find flavors that will mask the taste of certain bitter drugs and to establish a suitable method for appraising the vehicle. The work here reported, forming part of a larger study in progress, is an attempt to determine the factors which influence the ability of a vehicle to cover a given type of taste. Previously reported efforts to disguise distasteful medicaments cover comparatively few vehicles. We have sought to test a greater variety of flavored vehicles.

Distasteful substances are not relished by persons in good health, much less by those who are ill. Suitable flavoring of medications is a reasonable concession to the feelings of the patient. In addition it secures more effective cooperation in following the prescribed treatment, and may be necessary to help assure retention of the medicine in the stomach.[1] Wright[2] and Purdum[3] have given us the best studies to date on this subject. Their papers are reviewed briefly below to place the plan of our own work in perspective.

Wright's Method: An 8% solution of ammonium chloride and a 0.1% solution of quinine bisulfate were prepared in the respective vehicles and determinations were made on many persons. The preparations were given to the test subjects, in most cases, in groups of four flavors at one time. The subjects were permitted to retaste the solutions as necessary to decide the order of preference. Results were recorded on the basis of 3 points for first choice, 2 points for second, 1 point for third, and no credit for fourth. These points were then expressed as a percentage of a perfect first choice. This method thus gave preference to those flavoring agents which appealed most strongly to the majority of persons when considered from the standpoint of flavor alone.

Purdum's Threshold Method: The system used by this author determined the threshold of taste for a drug in aqueous solution as compared with a similar determination in a solution of the vehicle. The difference between the threshold concentrations when expressed numerically is called the "disguising potential" of the vehicle for the drug used. In general, for a series of vehicles, the higher the mean drug potential for a group of subjects, the better the vehicle as a disguising agent for the drug employed. This threshold method gives an accurate estimate of actual disguising properties without regard for palatability.

The New Combination Method: The method we have employed is really a combination of these two procedures with slight variations and additions. Its chief purposes are to make an estimate of the actual disguising properties of the flavoring agents and also to consider them in regard to palatability.

Preparation: Two types of bitter agents were tested: an alkaloidal salt, quinine bisulfate (0.64 Gm. per fluidounce), and an organic compound, urea (15 Gm. per fluidounce). In general, simple syrup, U. S. P. XII, served as a vehicle and the flavor was added. To prevent salting out of the urea, 10 to 20 cc. of the syrup was added and then the product was made up to volume with distilled water. Types of flavoring agents employed were as follows:

(A) *Essential oils:* These were first dissolved in 5 or 10 cc. of 70% ethanol and then added to the medicinal preparation.

(B) *Emulsion flavors:* Emulsions of the oils of lemon, orange and some of the spices were prepared, using 2% of the oil. Acacia, tragacanth, karaya, pectin, Tween 60, and Arlacel C were the emulsifying agents employed. A hand homogenizer was used to prepare the emulsions with the latter two substances. Emulsions were not prepared containing urea, for they do not remain stable with a large amount of salt present.

(C) *Syrups, Elixirs, etc.:* In most instances, 5 cc. of the flavored syrup, or other vehicle, was used in each fluidounce of sample prepared.

Procedure: The flavoring agents containing the medicinals were studied in groups of

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five at one time, as a large number of samples could not be satisfactorily judged and their efficiency properly considered.

Student volunteers (ages 20–32) were instructed not to eat or smoke for at least fifteen minutes before each group of tests, and to let at least thirty minutes elapse between each group of tests. The subjects tasted 1 cc. of each of the five preparations in turn, rinsing the mouth with water after each, and repeating the tasting as necessary. They were asked to:

1. State whether or not the sample was to them (*a*) very, very bitter, (*b*) very bitter, (*c*) bitter, (*d*) slightly bitter, or (*e*) not bitter. In this way the ability of the flavor actually to mask the bitterness of the drug was taken into account.

2. Describe the first sensation received when the sample was placed in the mouth and washed back and forth so it would contact all parts of the oral cavity.

3. Indicate the next sensation, and whether or not the drug or flavor, or both, left an aftertaste when the drug was expectorated and the mouth well rinsed with water. The effects were to be described in general taste terms, such as sweet, sour, salty, and bitter; and also in the mouth-feeling terms, such as numbing, astringent, warm, cool, biting, twangy, peppery, fruity, nutty, oily, flowery, and perfume-like. The last named terms also were used to describe the odor of the preparation.

For each group of five preparations the subject was to choose the drug that best disguised the bitterness and at the same time did not impart a disagreeable flavor. In many cases there were two or more in the group that were acceptable. In such cases, first and second choices were recorded. This served as a means of eliminating preparations that were definitely undesirable.

A group of four subjects taste-tested all of the preparations in each of the two series recorded in the tables, following the procedures previously described. The results are summarized in Tables I and II.

Summary and Conclusions

Ninety combinations containing quinine bisulfate, and seventy-five preparations containing urea were prepared and taste-tested.

To make valid conclusions as to palatability, the best of each grouping of samples must be combined into new groups and tasted again. This work is in progress. However, certain trends are apparent from the tables.

1. Spirits of cinnamon and orange compound; emulsions of orange and lemon oils; the mints, especially creme de menthe extract and oil of peppermint; and the syrup of cacao and acacia are among the better masking agents for quinine bisulfate. These results confirm in general previously reported work.

2. Among the imitation flavors readily available, more attention should be given to root beer extract, peach, cherry, blackberry, grape and pistachio. These flavoring agents are inexpensive and easy to use.

3. The oils of fennel, star anise, cassia and lemon are deserving of more attention for masking the bitterness of quinine bisulfate.

In the tests of urea solutions, results were somewhat similar. The mints and the oils of star anise and cassia showed up well in disguising its bitter taste, as did the orange spirit. Syrups of acacia and cacao appeared to be relatively less effective for urea than for the quinine salt. Tincture of sweet orange peel and several artificial flavors, namely, licorice, plum, apricot, grape and raspberry, seemed to be relatively more effective in disguising the taste of urea than in disguising quinine.

TABLE I.—TESTS OF VARIOUS VEHICLES FOR MASKING THE TASTE OF QUININE BISULFATE. (1.28 Gm. alkaloid salt per 60 cc.)

Sample No.	Grouping No. and Flavor	Amount in 60 cc.	Vehicle	Results
	I			
1	Glycyrrhiza Syr.		Syrup	
2	Cardamom Co. Tr.		Syrup	
3	Root Beer Ext.	5 gtts. in 10 cc. alc.	Syrup	First choice of two tasters
4	Licorice (Synth.)		Syrup	
5	Cinnamon Spirit	5 cc.	Syrup	First choice of two tasters and second choice of others
	II			
6	Comp. Spt. Orange	1.2 cc.	Syrup	First choice of three tasters
7	Lemon Emuls. (Acacia)	1.2 cc.	Syrup	Second choice of one taster
8	Oil Lemon	1 gtt.	Syrup	First choice of one taster
9	3% Pectin, 2 gr. Saccharin, 3 gtts. Oil Orange	60 cc.	None	
10	Lemon Emuls. (Trag.)	1.2 cc.	Syrup	
	III			
11	Lemon Emuls. (Acacia)	1.2 cc.	Water	First choice of one taster, second choice of one
12	Lemon Emuls. (Karaya)	1.2 cc.	Syrup	
13	Lemon Emuls. (Tween 60)	1.2 cc.	Syrup	First choice of one taster
14	Wild Cherry Syr.	10 cc.	Syrup	
15	Burnt Almond (Imitation	5 cc.	Syrup	First choice of two tasters
	IV			
16	Plum (Imitation)	5 cc.	Syrup	
17	Pear (Imitation)	5 cc.	Syrup	
18	Peach (Imitation)	5 cc.	Syrup	First choice of four tasters
19	Pineapple (Imitation)	5 cc.	Syrup	
20	Apricot (Imitation)	5 cc.	Syrup	
	V			
21	Wild Cherry (Imitation)	5 cc.	Syrup	First choice of one taster and second choice of one
22	Lemon Emuls. (Acacia)	60 cc.	None	First choice of one taster
23	Lemon Emuls. (Arlacel C)	60 cc.	None	
24	Glycyrrhiza Emuls. (Arlacel C)	60 cc.	None	
25	Orange Emuls. (Arlacel C)	60 cc.	None	First choice of two tasters
	VI			
26	Clove Emuls. (Arlacel C)	60 cc.	None	First choice of three tasters
27	Oil Clove	1 gtt. in 5 cc. alc. (70%)	Syrup	
28	Oil Cassia Emuls. (Arlacel C), equiv. to 1 dr. oil	60 cc.	None	
29	Nutmeg Emuls. (Arlacel C), equiv. to 1 dr. oil	60 cc.	None	Second choice of one taster
30	Oil Cassia	1 gtt. in 5 cc. alc. (70%)	Syrup	Bitter after-taste

(*Continued on next page*)

TABLE I *(Continued)*.—TESTS OF VARIOUS VEHICLES FOR MASKING THE TASTE OF QUININE BISULFATE. (1.28 Gm. alkaloid salt per 60 cc.)

SAMPLE NO.	GROUPING NO. AND FLAVOR	AMOUNT IN 60 CC.	VEHICLE	RESULTS
	VII			
31	Oil Cassia	2 gtts. in 10 cc. alc. (70%)	Syrup.....	Burns too much
32	Cherry (Imitation)	5 cc.	Syrup.....	First choice of three tasters
33	Currant (Imitation)	5 cc.	Syrup	
34	Butterscotch (Imitation	5 cc.	Syrup	
35	Caramel (Imitation)	5 cc.	Syrup.....	First choice of one, and second choice of one taster
	VIII			
36	Butter (Imitation)	5 cc.	Syrup.....	Second choice of one taster
37	Blackberry (Imitation)	5 cc.	Syrup.....	First choice of two tasters
38	Gooseberry (Imitation)	5 cc.	Syrup	
39	Grenadine (Imitation)	5 cc.	Syrup.....	First choice of one taster, and second choice of one
40	Honey (Imitation)	5 cc.	Syrup	
	IX			
41	Gentian Co. Tr.	5 cc.	Syrup	
42	Quince (Imitation)	5 cc.	Syrup.....	First choice of one taster
43	Grape (Imitation)	5 cc.	Syrup.....	First choice of two tasters
44	Prune (Imitation)	5 cc.	Syrup.....	First choice of one taster
45	Raspberry (Imitation)	5 cc.	Syrup	
	X			
46	Strawberry (Imitation)	5 cc.	Syrup	
47	Strawberry Ext. Conc.	5 cc.	Syrup.....	First choice of two tasters, second choice of one
48	Tonka Ext.	5 cc.	Syrup.....	Second choice of one taster
49	Pistachio (Imitation)	5 cc.	Syrup.....	First choice of two tasters, second choice of one
50	Vanilla Ext. (Synth.)	5 cc.	Syrup	
	XI			
51	Maple (Imitation)	5 cc.	Syrup.....	Second choice of one taster
52	Maple Ext.	5 cc.	Syrup	
53	Tropicco	5 cc.	Syrup	
54	Creme de Menthe Ext.	5 cc.	Syrup.....	First choice of three tasters
55	Port (Imitation)	5 cc.	Syrup.....	First choice of one, and second choice of one taster
	XII			
56	Vermouth Ital. (Imitation)	5 cc.	Syrup	
57	Arom. Elixir	60 cc.	None	
58	Raspberry Syrup	60 cc.	None.....	Second choice of one taster
59	Loganberry (Imitation)	5 cc.	Syrup.....	First choice of one taster
60	Sw. Orange Peel Tr.	5 cc.	Syrup.....	First choice of two tasters

(Continued on next page)

TABLE I *(Continued)*.—TESTS OF VARIOUS VEHICLES FOR MASKING THE TASTE OF QUININE BISULFATE. (1.28 Gm. alkaloid salt per 60 cc.)

SAMPLE NO.	GROUPING NO. AND FLAVOR	AMOUNT IN 60 cc.	VEHICLE	RESULTS
	XIII			
61	Mace Emulsion	5 cc.	Syrup	
62	Ginger Tr.	5 cc.	Syrup	
63	Oil Spearmint	2 gtts. in 10 cc. alc. (70%)	Syrup	Second choice of three tasters
64	Oil Clove	Same as above	Syrup	
65	Oil Peppermint	Same as above	Syrup	First choice of four tasters
	XIV			
66	Oil Lime	2 gtts. in 10 cc. alc. (70%)	Syrup	Second choice of one taster
67	Oil Nutmeg	Same as above	Syrup	First choice of one taster
68	Oil Cubeb	Same as above	Syrup	
69	Oil Fennel	Same as above	Syrup	First choice of three tasters
70	Oil Thyme (Imitation)	Same as above	Syrup	
	XV			
71	Oil Pimenta	2 gtts. in 10 cc. alc. (70%)	Syrup	Second choice of one taster
72	Oil Wintergreen	Same as above	Syrup	First choice of one taster
73	Oil Sassafras	Same as above	Syrup	Second choice of one taster
74	Oil Star Anise	Same as above	Syrup	First choice of two tasters
75	Oil Sarsaparilla	Same as above	Syrup	
	XVI			
76	Oil Cassia	2 gtts. in 10 cc. alc. (70%)	Syrup	First choice of two tasters
77	Grenadine Flavor	Same as above	Syrup	First choice of two tasters
78	Cam-O-Sass	Same as above	Syrup	
79	Oil Sw. Birch	Same as above	Syrup	Second choice of one taster
80	Oil Bergamot	Same as above	Syrup	
	XVII			
81	Oil Sw. Orange	2 gtts. in 10 cc. alc. (70%)	Syrup	
82	Oil Sw. Lemon	Same as above	Syrup	First choice of two tasters
83	Oil Cachou	1 cc. in 10 cc. alc. (70%)	Syrup	First choice of two tasters
84	Lemon Tr.	5 cc.	Syrup	
85	Orange Syrup	10 cc.	Syrup	
	XVIII			
86	Lemon Syrup	10 cc.	Syrup	First choice of one taster
87	Citric Acid Syrup	10 cc.	Syrup	
88	Sarsaparilla Syrup	10 cc.	Syrup	First choice of two tasters, and second choice of one
89	Cinnamon Syrup	10 cc.	Syrup	First choice of one taster
90	Tolu Syrup	10 cc.	Syrup	
	XIX			
91	Acacia Syrup	60 cc.	None	First choice of one taster
92	Vanilla Ext. Synth.	5 cc.	Elix. Lact. Pepsin	Second choice of one taster
93	Cacao Syrup	10 cc.	Syrup	First choice of three tasters
94	Arom. Elixir	60 cc.	Syrup	

TABLE II.—TESTS OF VARIOUS VEHICLES FOR MASKING THE TASTE OF UREA

(30 Gm. urea per 60 cc.)

SAMPLE NO.	GROUPING NO. AND FLAVOR	AMOUNT IN 60 CC.	VEHICLE	RESULTS
	I			
101	Gentian Co. Tr.	5 cc.	Syrup	
102	Sw. Orange Peel Tr.	5 cc.	Syrup	First choice of three tasters
103	Caramel (Imitation)	5 cc.	Syrup	First choice of one taster, and second choice of one
104	Ginger Tr.	5 cc.	Syrup	
105	Maple (Imitation)	5 cc.	Syrup	
	II			
106	Tonka Ext.	5 cc.	Syrup	
107	Creme de Menthe Ext.	5 cc.	Syrup	First choice of four tasters
108	Synth. Vanilla Ext.	5 cc.	Syrup	
109	Synth. Vanilla Ext.	5 cc.	Elix. Lact. Pepsin	
110	Cardamom Co. Tr.	5 cc.	Syrup	
	III			
111	Lemon Tr.	5 cc.	Syrup	First choice of one taster
112	Wild Cherry Syrup	5 cc.	Syrup	
113	Sarsaparilla Comp. Syr.	10 cc.	Syrup	First choice of three tasters, and second choice of one
114	Glycyrrhiza Syr.	10 cc.	Syrup	
115	Raspberry Syr.	10 cc.	Syrup	
	IV			
116	Orange Syrup	10 cc.	Syrup	
117	Lemon Syrup	10 cc.	Syrup	Second choice of one taster
118	Citric Acid Syrup	10 cc.	Syrup	
119	Oil Spearmint	2 gtts. in 10 cc. alc. (70%)	Syrup	First choice of four tasters
120	Oil Clove	Same as above	Syrup	Second choice of one taster
	V			
121	Oil Peppermint	2 gtts. in 10 cc. alc. (70%)	Syrup	First choice of four tasters
122	Oil Lime	Same as above	Syrup	
123	Oil Nutmeg	Same as above	Syrup	
124	Oil Cubeb	Same as above	Syrup	
125	Oil Fennel	Same as above	Syrup	Second choice of four tasters
	VI			
126	Oil Red Thyme (Imitation)	2 gtts. in 10 cc. alc. (70%)	Syrup	
127	Oil Pimenta	Same as above	Syrup	Second choice of one taster
128	Oil Wintergreen Leaf	Same as above	Syrup	
129	Oil Sassafras	Same as above	Syrup	Second choice of two tasters
130	Oil Star Anise	Same as above	Syrup	First choice of four tasters
	VII			
131	Oil Sarsaparilla	2 gtts. in 10 cc. alc. (70%)	Syrup	
132	Oil Cassia	Same as above	Syrup	First choice of three tasters
133	Grenadine Flavor	Same as above	Syrup	Second choice of three tasters

(*Continued on next page*)

TABLE II *(Continued)*.—TESTS OF VARIOUS VEHICLES FOR MASKING THE TASTE OF UREA

(30 Gm. urea per 60 cc.)

Sample No.	Grouping No. and Flavor	Amount in 60 cc.	Vehicle	Results
134	Cam-O-Sass	Same as above	Syrup	Second choice of one taster
135	Oil Sw. Birch	Same as above	Syrup	First choice of one taster
	VIII			
136	Oil Bergamot	2 gtts. in 10 cc. alc. (70%)	Syrup	
137	Oil Sw. Orange	Same as above	Syrup	
138	Oil Lemon	Same as above	Syrup	
139	Cinnamon Syrup	10 cc.	Syrup	First choice of two tasters, second choice of one
140	Burnt Almond (Imitation)	5 cc.	Syrup	First choice of one taster, second choice of one taster
	IX			
141	Butterscotch (Imitation)	5 cc.	Syrup	First choice of two tasters
142	Tropicco	5 cc.	Syrup	
143	Root Beer Ext.	5 cc.	Syrup	First choice of two tasters, second choice of two tasters
144	Butter (Imitation)	5 cc.	Syrup	Second choice of one taster
145	Port (Imitation)	5 cc.	Syrup	
	X			
146	Vermouth Ital. (Imitation)	5 cc.	Syrup	
147	Plum (Imitation)	1 cc.	Syrup	First choice of three tasters
148	Pear (Imitation)	1 cc.	Syrup	Second choice of four tasters
149	Peach (Imitation)	1 cc.	Syrup	
150	Pineapple (Imitation)	1 cc.	Syrup	First choice of one taster
	XI			
151	Apricot (Imitation)	1 cc.	Syrup	First choice of three tasters, second choice of one
152	Wild Cherry (Imitation)	1 cc.	Syrup	Second choice of one taster
153	Cherry (Imitation)	1 cc.	Syrup	
154	Currant (Imitation)	1 cc.	Syrup	
155	Blackberry (Imitation)	1 cc.	Syrup	First choice of one taster, second choice of one taster
155	Blackberry (Imitation)	1 cc.	Syrup	First choice of one taster, second choice of one taster
	XII			
156	Gooseberry (Imitation)	1 cc.	Syrup	First choice of one taster
157	Grenadine (Imitation)	1 cc.	Syrup	
158	Honey (Imitation)	1 cc.	Syrup	First choice of one taster
159	Quince (Imitation)	1 cc.	Syrup	
160	Grape (Imitation)	1 cc.	Syrup	Second choice of two tasters

(*Continued on next page*)

TABLE II *(Continued)*.—TESTS OF VARIOUS VEHICLES FOR MASKING THE TASTE OF UREA

(30 Gm. urea per 60 cc.)

SAMPLE NO.	GROUPING NO. AND FLAVOR	AMOUNT IN 60 CC.	VEHICLE	RESULTS
	XIII			
161	Prune (Imitation)	1 cc.	Syrup	Second choice of two tasters
162	Raspberry (Imitation)	1 cc.	Syrup	First choice of two tasters
163	Strawberry (Imitation)	1 cc.	Syrup	First choice of one taster
164	Strawberry Ext. Conc.	0.5 cc.	Syrup	First choice of one taster, second choice of one taster
165	Loganberry (Imitation)	1 cc.	Syrup	
	XIV			
166	Pistachio (Imitation)	1 cc.	Syrup	Second choice of one taster
167	Maple (Imitation)	2 cc.	Syrup	
168	Mace Emulsion	2 cc.	Syrup	Second choice of one taster
169	Licorice (Imitation)	2 cc.	Syrup	First choice of four tasters
170	Cinnamon Spt.	1.2 cc.	Syrup	Second choice of two tasters
	XV			
171	Orange Spt.	1.2 cc.	Syrup	First choice of two tasters
172	Acacia Syrup	20 cc.	Syrup	First choice of one taster
173	Tolu Syrup	10 cc.	Syrup	Second choice of one taster
174	Cachou Base	2 gtts.	Syrup	
175	Cacao Syrup	10 cc.	Syrup	First choice of one taster, second choice of one taster
176	Arom. Elixir	60 cc.	None	

Acknowledgment is made to the following companies for supplying flavor samples: Magnus, Mabee & Reynard, New York; Seeley & Company, New York: and the Felton Chemical Company, Brooklyn.

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Observe National Pharmacy Week
April 20–26

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HOSPITAL PHARMACY DIVISION ESTABLISHED

THE Council of the AMERICAN PHARMACEUTICAL ASSOCIATION and the Executive Committee of the American Society of Hospital Pharmacists have announced the establishment of a Division of Hospital Pharmcy which will further the objectives of both organizations with respect to the further development of hospital pharmacy.

The Division of Hospital Pharmacy consists of a Policy Committee, a Director, a Secretary, and such staff as may be required to carry out its functions. The Policy Committee is composed of seven members: two to be selected by the AMERICAN PHARMACEUTICAL ASSOCIATION and to include the secretary of the A. PH. A., four to be selected by the American Society of Hospital Pharmacists and to include the chairman and the editor of the American Society of Hospital Pharmacists, and one to be selected by the American Hospital Association.

The agreement between the two organizations provides that the functions of the Division of Hospital Pharmacy shall include:

1. Furthering the objectives of the American Society of Hospital Pharmacists as set forth in Article 1 of the Constitution of that organization and pertinent objectives of the AMERICAN PHARMACEUTICAL ASSOCIATION as set forth in its Constitution.

2. Integrating the activities of the American Society of Hospital Pharmacists with those of the AMERICAN PHARMACEUTICAL ASSOCIATION.

3. Building up the membership of both the American Society of Hospital Pharmacists and that of the AMERICAN PHARMACEUTICAL ASSOCIATION.

4. Make available to the members of the American Society of Hospital Pharmacists and to all individuals, agencies and organizations interested in hospital pharmacy or requiring information on hospital pharmacy, the full resources of both the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists.

5. Promoting and assuring the future of the *Bulletin of the American Society of Hospital Pharmacists* in cooperation with the Committee on Publications of the AMERICAN PHARMACEUTICAL ASSOCIATION.

6. Providing an administrative unit with career personnel and necessary clerical assistance to further the interests of the American Society of Hospital Pharmacists and hospital pharmacy in general.

7. Providing necessary funds with which to accomplish the objectives sought.

With the enlargement of existing hospitals and the establishment of new hospitals under recent Federal legislation, the increasing need for standardization and improvement of pharmaceutical service in the hospitals presents a problem to which the AMERICAN PHARMACEUTICAL ASSOCIATION is giving increasing attention. The establishment of the Division of Hospital Pharmacy at A. PH. A. headquarters makes it possible to concentrate attention on these problems in an environment conducive to their solution because of the availability of the A. PH. A. Reference Library, the A. PH. A. Laboratory, and members of the staff of the ASSOCIATION whose functions impinge upon institutional pharmacy.

For the present, the Division will be under the direction of Dr. Robert P. Fischelis, secretary and general manager of the A. PH. A. Miss Gloria Niemeyer, hospital pharmacist formerly of the University of Michigan Hospital at Ann Arbor, will serve as secretary of the Division at the A. PH. A. headquarters building in Washington, D. C.

FOR THE HOSPITAL PHARMACY . . .
PARENTERAL SOLUTION EQUIPMENT*

by JOHN T. MURPHY

CHIEF PHARMACIST, MASSACHUSETTS GENERAL HOSPITAL

IT IS not the purpose of this discussion to advocate the indiscriminate manufacture of parenteral preparations in the hospital pharmacy. Rather it is to emphasize the need of preparing in the hospital pharmacy those preparations that are not otherwise available.

Extensive manufacture in the hospital pharmacy of parenteral preparations, equal in quality to those commercially available, requires special facilities and expensive equipment. Equipment in this sense may be broken down into four general categories.

1. *MAJOR PROCESSING EQUIPMENT*, which includes:

Large capacity water still.

Large capacity autoclave with jacket for drying, after sterilization, such items as rubber plugs, filters, etc.

Container washing and rinsing appliances.

Thermostatically controlled oven of adequate size to dry and sterilize glass containers. This oven should have sufficient thermal capacity to permit destruction of glass borne pyrogens.

Precision electric oven, preferably with forced circulation, for sterilization of oils and those substances which in the dry state are stable at effective sterilizing temperatures, but which in solution are thermo-labile.

Air filtered room for preparing the solutions, and filling and sealing the containers.

Device for sealing the container rubber plugs, preferably the aluminum type of seal.

Bacterial filter apparatus of adequate capacity.

2. *CHEMICAL CONTROL EQUIPMENT:* This requires a laboratory setup sufficient to adjust *p*H, conduct assay procedures, and when required to check the purity of materials used.

3. *BACTERIOLOGICAL CONTROL EQUIPMENT:* This necessitates the possession of an incubator and the necessary glass ware for determining sterility of the finished products.

4. *PYROGEN CONTROL EQUIPMENT:* This requires utilization of the facilities of an animal farm, with trained personnel to interpret results. With meticulous care and attention to details in the manufacture of small-volume parenteral preparations for intramuscular or subcutaneous injection, this control in most instances may be omitted. But for the production of large-volume solutions intended for intravenous use, this type of control is imperative.

Obviously the preparation of quantities required by the average hospital will not justify the financial outlay involved in this setup. Therefore, with the exception of the larger hospital pharmacies, where many thousands of units of parenteral products can be processed annually at substantial savings, it is our opinion that those preparations which are commercially available should not be manufactured in the hospital pharmacy.

The preparation of extemporaneous parenteral medicaments presents a separate problem. This is a duty of the hospital pharmacist since he is trained to do this type of work. Such pharmaceutical service as the preparation of the parenteral medicaments will lift from the door that obnoxious designation, "Drug Room," and replace it with the more appropriate title, "The Pharmacy."

The processing of extemporaneous parenteral preparations, however, also requires special facilities and equipment. This need not be as expensive or elaborate as that required for large-scale manufacture. If we assume that the hospital pharmacy is already equipped with accurate weighing and measuring devices, an efficient water still, an electric hot air oven, and the other appurtenances necessary to the ordinary practice of pharmacy, the following additional equipment will meet the essential requirements for doing this kind of work:

Steam autoclave, preferably with jacket.

Conductivity meter for checking the purity of distilled water.

Fritted glass filters for ordinary filtration.

Ultra-filters of the Seitz, Berkefeld, or fritted glass type for bacterial filtration.

Source of negative pressure. In the absence of a vacuum pump, a water aspirator will serve the purpose.

pH apparatus, preferably a meter although a colorimetric device will do.

* Presented to the Massachusetts Society of Hospital Pharmacists.

Glass hood, under which containers may be filled and stoppered.

With these aids and the knowledge of chemistry and bacteriology that is his by reason of training, the hospital pharmacist should have no qualms about providing this necessary service.

It will not suffice to raise objection to the moderate expense involved in creating this setup. With care this equipment will last for many years. The answer that special medications for injection now are seldom requested is not tenable. There may be a reason for this paucity of demand. The physician senses that as the hospital pharmacy is so often constituted it is useless to request this type of service.

Realization by the medical and surgical staffs of the hospital that the pharmacist is prepared to provide this essential service will create a demand for this type of medication.

We are aware that the creation of such service means more work and added responsibilities. However, it should lead to added emoluments for the pharmacist. It also means added prestige for the pharmacist and a closer relationship with the physician in the care of the patient.

℞

RED BLOOD CELLS PROMOTE HEALING OF VASCULAR ULCERS

Use of concentrated human blood cells to promote healing processes of ulcerations in an extremity affected by vascular disease has been evaluated at Mayo Clinic. From treating a series of 46 patients, divided into groups according to the vascular disease, it is concluded that healing was much accelerated in approximately one-half of the patients with both ischemic ulcers and stasis ulcers. This is based on previous experience with similar ulcers in patients with comparable degrees of vascular disease in whom other methods of local treatment failed to produce evidence of healing. In approximately one-half of the patients in whom powdered blood cells were used, it is considered questionable whether healing occurred any more rapidly than it would have with other bland local applications. In a few patients less healing occurred or the treatment was not well tolerated.

Treatment of chronic ulcers consisted of initial therapy to clean the ulcer and surrounding tissue by either soaks or dressings of warm saturated solution of boric acid or 0.5% tyrothricin dressings. When patients responded to this therapy it was continued. Consequently, the ulcers treated with powdered blood cells were those which proved resistant to the usually accepted methods of treatment. Usual treatment was given to relieve the underlying vascular disease.

The powdered blood cells, either in the form of the natural gelatinous mass or in the form of dried powder, were applied with a sterile spatula or swab or dusted on from a container with a shaker top. The entire surface of the ulcer was covered with the powder and then loosely covered with a dry sterile dressing. Exudate absorbed from the tissues resulted in the formation of a hard crust which was removed with care each day. It was not determined whether the favorable response observed results from partial desiccation, from some healing factor in the cells, from nutrition supplied by the crust, or merely because the crust is protective and entirely nonirritating.

—*Am. Heart J. 32: 754 (December) 1946*

TREASURER OF THE A. S. H. P.

SISTER GLADYS ROBINSON

SISTER GLADYS ROBINSON, chief pharmacist at Milwaukee Hospital, Milwaukee, Wis., is treasurer of the American Society of Hospital Pharmacists for the 1946–1947 term. She is a member of the Lutheran Deaconess Motherhouse, the Sisterhood that owns and operates Milwaukee Hospital.

Sister Gladys attended Marquette University from 1936 until 1938, receiving an award for the highest scholastic attainment in the freshman class. She later attended University of Wisconsin, graduating from the School of Pharmacy in 1940 with highest honors. Other honors, including election to Phi Beta Kappa, Rho Chi and Kappa Epsilon, recognize her outstanding capability. She later took graduate work in chemistry at Marquette University.

Active in local and national pharmacy organizations, Sister Gladys is now serving as president of the Wisconsin Society of Hospital Pharmacists. In addition to being a member of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Society of Hospital Pharmacists, she is a member of the American College of Apothecaries.

For biographical sketch of Chairman Hansen and Vice-Chairman Banning see November, 1946, and January, 1947 issues, respectively.

PARENTERAL ASCORBIC ACID

PREPARATION of a stable buffered solution of ascorbic acid suitable for parenteral administration has presented somewhat of a problem to hospital pharmacists wishing to manufacture this preparation. Many patents concerning the preparation of such a solution have been issued, though a method for preparing an aqueous solution of ascorbic acid buffered with an alkaline salt apparently has not been described in the U. S. patent literature.

Procedures used for the preparations now on the market involve the formation of a salt or ester of ascorbic acid in solution, and usually include sealing the solution in ampuls under an inert gas with or without the addition of an antioxidant. Consequently, Joseph L. Ciminera and Paul W. Wilcox, reporting in the *Scientific Edition* of THIS JOURNAL (December, 1946), have suggested a method for preparing a stable buffered solution of ascorbic acid that is acceptable for direct parenteral administration or for addition to intravenous infusions, and is said not to infringe any U. S. patent.

Solutions of ascorbic acid in distilled water possess a low *p*H and consequently are quite irritating when injected subcutaneously or intramuscularly. In this study it was found that by buffering a solution of ascorbic acid with an analytical reagent grade of trisodium phosphate, $Na_3PO_4 \cdot 12H_2O$, to *p*H 6.3 (6–6.5), a solution having a *p*H sufficiently high to prevent discomfort at the site of injection, and yet well below the critical point where ascorbic acid becomes more easily oxidized, can be obtained.

Since ascorbic acid is easily oxidized in solution, rigid measures must be taken to exclude air during preparation and storage. The water used must first be boiled to remove dissolved gases and then saturated with nitrogen during cooling. All subsequent manipulations must be carried out under nitrogen.

Sterilization may be attained by filtration through a sterile all-porcelain candle, observing aseptic technique throughout the procedure. Since ascorbic acid can be heated for long periods of time without change, provided all contact with oxygen is excluded, it is advantageous to sterilize solutions in sealed ampuls by the use of heat. High temperatures and prolonged periods of heating to bring about sterility may be obviated by limiting the size of container and using phenol, since an increase in the temperature enhances the germicidal power of phenol. It was found that ten minutes' heating at 100° will sterilize ampuls of ascorbic acid effectively, provided the size of the ampul is restricted to 2 cc. or less and provided that phenol in a concentration of 0.5% is present in the solution. No loss of ascorbic acid and no discoloration occurred in the solution when it was subjected to this combined treatment. A solution so prepared was found to be stable for at least twelve months at room temperature in the dark.

The solution may be added to intravenous infusions such as normal salt solution, and human blood plasma without evidence of precipitation. The quantity added represented 100 mg. of ascorbic acid per liter of intravenous infusion.

The following experimental procedure for the preparation of ascorbic acid solution containing 50 mg. of ascorbic acid per cc. of solution is given. Concentrations up to 200 mg./cc. may be prepared similarly, provided the ratio (by weight) of trisodium phosphate to ascorbic acid is maintained at 12:11.

Procedure

A 10% solution of ascorbic acid was titrated with a solution of trisodium phosphate of the same concentration. Since the solution of ascorbic acid began to discolor at *p*H 7 and acquired a yellow-brown color above *p*H 8, it was decided to buffer the solution at *p*H 6.3, corresponding to addition of $^1/_2$ mole—equivalent of trisodium phosphate. Accordingly a solution of ascorbic acid was prepared as follows:

PER CC.	
50 mg. + 10%	Ascorbic Acid... 55 Gm.
60 mg.	Trisodium Phosphate, $Na_3PO_4 \cdot 12H_2O$ (Mallinckrodt Analytical Reagent).. 60 Gm.
0.5%	Phenol, crystals. 5 Gm.
	Distilled water, pyrogen-free, *q.s.*..... 1000 cc.

A volume of 900 cc. of freshly distilled pyrogen-free water was heated to boiling. This was saturated with nitrogen while cooling to 30–35°. The ascorbic acid was added and stirring was continued until complete solution occurred. The trisodium phosphate then was added and dissolved. Finally the phenol, previously melted on a water

bath, and sufficient freshly distilled pyrogen-free water (saturated with nitrogen) to make 1000 cc. were added. Stirring was continued under nitrogen until solution was complete.

The solution was filtered through a sintered glass filter of medium porosity in an atmosphere of nitrogen and then was filled into sterile flame-sealed ampuls of 2-cc. capacity. This was carried out in an atmosphere of nitrogen under pressure and the ampuls were flushed with nitrogen at 5 pounds pressure for at least two seconds *before* and *after* filling. The sealed ampuls were sterilized by immersion in boiling water, allowing the temperature of the water bath to rise *rapidly* to the boiling point again, and maintaining this temperature for *exactly* ten minutes. The ampuls were immediately removed, and quickly cooled by immersion in running water at a temperature of 20–25°.

Particular care was taken to exclude air and contact with metals during preparation. The ampuls were stored in a cool place protected from light.

Tests on the finished product showed that the solution was sterile after the heat treatment and the *p*H was not altered.

Because of the instability of ascorbic acid in solution, the pharmacist preparing parenteral ascorbic acid must plan to assay the final preparation.

Since ascorbic acid solution is easily oxidized by certain metals it is also suggested that distilled water redistilled from glass be used to assure the absence of heavy metals.

$R_xR_xR_xR_xR_x$

VA PHARMACY POSTS FOR ROTATING DUTY

VETERANS Administration Pharmacy Service has established positions in branch offices for pharmacists to serve in any activity throughout the branch area. Director Briggs of Pharmacy Service explained that some small hospitals and other stations require only one pharmacist for routine work. However, he pointed out that unusual workloads, illness of the pharmacist, or vacation periods require the presence of a relief pharmacist. In the past such conditions were met by nurses or doctors filling in for the absent pharmacist. This condition was not considered in the best interest of veterans, and for that reason the new positions have been created.

Pharmacists engaged for this "rotating" duty will in most instances be in grade P-2 with salary of $3397.20 to $4149.60 per annum. In addition, overtime pay is received for Saturday and extra work periods. When pharmacists in these positions are sent for temporary periods to hospitals, they will be carried on a per diem basis, in addition to salary.

Applicants must hold a Bachelor of Science degree from an accredited college and be registered as a pharmacist. Applications for these positions should be made to one of the Veterans Administration branch offices which are located at Boston, New York, Philadelphia, Richmond, Atlanta, Columbus (Ohio), Chicago, St. Paul, St. Louis, Dallas, Seattle, San Francisco, and Denver.

Director Briggs also announced that there are still opportunities for qualified pharmacists to be appointed for permanent duty in various VA hospitals and other medical activities. These positions are mostly in grade P-2 but with opportunity for advancement to grade P-3 carrying salary of $4149.60 to $4902 per annum. Applications for these positions should be made to the branch offices in the area in which the applicant would prefer to serve.

Mr. Briggs discussed some of the advantages of VA service, especially the 30 days annual and 15 days sick leave provisions, as well as the retirement features. He said that the general caliber of pharmacy service was steadily improving and that he hoped to see the present high grades even further advanced at some future date. Plans are also under way to establish orientation training for pharmacists in some of the larger teaching hospitals.

He pointed out that during the next two years VA will open many new hospitals and that pharmacists coming into VA now would be eligible for transfer if they so desire. Most of the new hospitals are planned for urban centers, adjacent to medical schools. It was also emphasized that some of the present vacancies are in regional offices, all of which are in large cities.

FEDERAL SECURITY AGENCY
U. S. PUBLIC HEALTH SERVICE
WASHINGTON 25, D. C.

IN REPLYING
ADDRESS THE SURGEON GENERAL
U. S. PUBLIC HEALTH SERVICE

February 28, 1947

Dr. E. R. Serles, President
American Pharmaceutical Association
2215 Constitution Avenue, N. W.
Washington 7, D. C.

Dear Dr. Serles:

I am pleased to learn that the pharmacists of America are dedicating their 1947 Pharmacy Week to cancer education.

As a second leading cause of death, cancer is one of our most urgent public health problems. In 1945 deaths from this disease numbered 177,464. It is believed by some authorities that even with our present medical knowledge approximately a third of these deaths could have been prevented, if early diagnosis and prompt, expert treatment had been received. Obviously one of the most effective means of stimulating early treatment is through the dissemination of accurate health information.

The Public Health Service long has been active in cancer research at the National Cancer Institute and now we have been given authority to assist control programs in State Health Departments. Your interest should be a valuable corollary both to our efforts and those of the American Cancer Society.

Upon a number of occasions it has been our pleasure to have the cooperation of the American Pharmaceutical Association and of pharmacists throughout the country. We particularly appreciate their wartime contribution to the recruitment of Cadet Nurses. I wish to extend my best wishes for the successful observance of National Pharmacy Week and to offer such cooperation as we can give in our official capacity.

Sincerely yours,

Thomas Parran

Surgeon General

Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

HONEY AS DISPERSING AGENT FOR BALSAM OF PERU

Addition of a small amount of honey aids in the suspension of resinous material prescribed in aqueous liquids. Prof. I. W. Rose of the School of Pharmacy, University of North Carolina, suggests the use of honey as the dispersing agent for compounding prescriptions containing balsam of Peru. The following prescription is an example.

Balsam Peru	fl. ʒ ii
Liq. phenol	♏ xx
Creamalin liquid *q. s.*	fl. ʒ iv

M. et Sig: Apply locally.

If the balsam of Peru and liquefied phenol are first mixed well with one or two drams of honey and the Creamalin liquid added slowly with constant stirring, the result is a smooth, emulsion-like preparation which stands up indefinitely with very little settling.

Honey also seems to be a desirable addition to such substances as castor oil, soap and petroxolin, used as an aid in the preparation of ointments containing balsam of Peru. Balsam of Peru mixes readily with honey and a mixture of 1 part of the balsam with 0.5 to 1 part of honey may be incorporated into any of the ordinary ointment vehicles such as petrolatum, wool fat and yellow or white ointment. Ointments of good consistency and appearance may be obtained with each of these bases.

—*The Carolina J. Pharm., 27: 415 (October) 1946*

BLEEDING FROM ULCERS STOPPED BY THROMBIN

Use of thrombin to stop hemorrhage from stomach ulcers or other stomach and intestinal conditions has been announced by Dr. Byrne M. Daly of Wayne University College of Medicine. Patients with hemorrhage are given the thrombin dissolved in two ounces of a phosphate solution. The phosphate solution acts as a buffer to keep the gastric juices from inactivating the thrombin before it produces a clot at the bleeding point on the ulcer or stomach wall. In each patient to whom the buffered thrombin was given, the bleeding stopped, although it had been uncontrolled previously and surgery had been considered. Though believed to be of value in controlling hemorrhage from the stomach, final evaluation must await adequate clinical trial.

*p*H OF FLUORIDE SOLUTIONS AFFECTS DENTIN SOLUBILITY

Adjusting the *p*H of fluoride solutions used to control dental caries is believed to affect the solubility of enamel and dentin in organic acids. In a series of laboratory tests to determine the solubility-reducing effects of various fluoride mixtures, Dr. B. G. Bibby of Boston and his associates demonstrated that fluoride solutions buffered to *p*H 4 or below bring about a more marked reduction of enamel and dentin solubility in organic acids. It is assumed that the probable effectiveness of these mixtures in caries control depends upon the extent to which they reduce the acid solubility of enamel and dentin.

An earlier report indicated that significant reduction in the activity of dental caries had been produced by applications of 0.1% solution of sodium fluoride to the teeth. Using different fluoride solutions of higher concentrations of sodium fluoride than those previously used appeared to be about equally effective in reducing decay in children but less beneficial in adults. Further laboratory studies have been carried out to determine the relative effectiveness of various fluoride mixtures in reducing tooth solubility.

Combining the fluorides with agents of the type used in dentifrices, mouthwashes or prophylactic mixtures, it was noted that fluorides in these preparations still exert some solubility-reducing effect on the teeth. However, in most instances such preparations were less active than ordinary aqueous solution of sodium fluoride.

Most important was the finding that the effect of sodium fluoride was increased in an acid

medium, indicating the need for determining the *p*H range at which the fluorides would exert their maximal solubility-reducing effects. Results of this *in vitro* study seem to establish quite definitely that the effect of fluoride solutions in reducing tooth solubility can be increased by having them react in an acid medium at approximately *p*H 4. The results also suggest that there would be advantages in employing acidulated solutions wherever topical fluoride treatments are being used for the purposes of caries control. Preliminary evidence also indicates that the solubility of enamel and dentin can be reduced by the action of ions other than fluorine.

Comparing these results with the results of clinical studies using fluoride solution in preventing dental caries in children indicates that there is a fairly direct correlation between laboratory tests and actual clinical trials.

—J. Am. Dent. Assoc., 34:26, 1947

NONSUGAR CHERRY VEHICLE

A formula for a cherry vehicle has been developed at Rutgers University College of Pharmacy as part of a program sponsored by the Joint Committee on Professional Relations of New Jersey. Its use is indicated when a nonsugar vehicle is desired. The acacia and glycerin act as a suspending agent.

Acacia	150 Gm.
Cherry flavor	1 cc.
Solution of amaranth	3 cc.
Soluble saccharin	1 Gm.
Sodium benzoate	1 Gm.
Glycerin	300 cc.
Distilled water, to make	1000 cc.

STREPTOMYCIN MAY PRODUCE NEUROTOXIC SYMPTOMS

Neurotoxic symptoms involving the vestibular and auditory systems may occur following streptomycin therapy according to a preliminary report by Drs. Edmund P. Fowler, Jr. and Ewing Seligman of New York. Studying a series of 81 streptomycin-treated patients, the physicians concluded that "it is evident that a high incidence of vestibular disturbance and a sizeable number of cases of deafness, either transitory or permanent, will occur with the use of streptomycin of even the best current manufacture if large doses of the drug are given over prolonged periods."

Onset of otic symptoms, if they occur, is usually on the seventeenth to twentieth day if 3 Gm. of the drug is given per day. However, cases have been noted in which symptoms started earlier.

The mechanism of the otic complications of streptomycin therapy is unclear. An audiogram and vestibular test should be performed before the initiation of streptomycin therapy so that a comparison of the patient's response before and after treatment may be determined. There is some indication of individual susceptibility to the toxic effects of streptomycin, and it is hoped that such effects may eventually be traced to impurities in the drug. It has been noted, however, both in man and experimental animals, that otic symptoms have been caused by high potency streptomycin in lots derived from crystalline material and symptoms were not produced by some lots of the drug that were of extremely low potency.

Because of the possibility of complications, the indications for the use of streptomycin should be carefully considered in each case. However, when indicated, the drug should not be withheld because of potential danger. The occurrence of otic symptoms during streptomycin therapy should call for a reconsideration of the case before continuing the administration of the drug. If streptomycin therapy is continued, the drug should bear a different lot number.

—J. Am. Med. Assoc. 133:87, 1947

LOW SALT DIET HELPFUL IN CONGESTIVE HEART FAILURE

Restriction of salt in the diet with a liberal intake of fluid should receive greater emphasis in treating patients with congestive heart failure, especially those with coronary and hypertensive heart disease. This is the conclusion of physicians at Massachusetts General Hospital, Boston, who point out that "with a few notable exceptions, casual limitation of salt and fluid has been the custom throughout the country, and generally more stress has been placed on the restriction of fluid than on that of salt." New clinical evidence indicates the significance of low intake of sodium.

Fifty patients with congestion due to heart diseases of all types were treated during the last year and a half. Of the 35 patients who followed the salt restricted diet faithfully, 13 did not show improvement, while 22 were better; of the latter group 10 showed great benefit. "In no instances were patients made worse by this therapy," the physicians state.

Twenty of the 35 patients had hypertensive and/or coronary heart disease. Eighteen of these showed improvement.

The physicians warn that "there are certain precautions which must be carefully observed in following a diet low in sodium (salt):

1. Salt, soda or baking powder should not be used in the cooking or at the table. Substitutes for salt which contain soduim should not be used.
2. Sweet butter or butter that has been washed free of salt may be used. Bread and salad dressings must be prepared salt free. Canned foods, unless prepared salt free, should not be used.
3. Salty appetizers or salted foods, such as nuts, potato chips, sardines, olives, pickles and relishes, are to be guarded against. Cheese and smoked or salted meats are not permitted.
4. Medicines containing sodim should not be used against gas or indigestion. Calcium salts are helpful in this regard.

—*J. Am. Med. Assoc., 133:16, 1946*

PABA GIVEN WITH SALICYLATES

Blood levels of salicylate are increased when the drug is given in conjunction with para-aminobenzoic acid. This interesting and probably therapeutically useful phenomenon has been observed at the Mayo Clinic in treating a case of rheumatic fever and in two controlled experiments with healthy individuals.

Salicylates have long been used in rheumatic fever, and accumulating evidence suggests that their action may be more specific than generally supposed. Previous studies seem to show that assurance of an adequate blood level of salicylate is important, and indicate that the problem of maintaining the blood level may be directly related to inadequate therapeutic response or relapse.

On more or less empiric grounds, PABA was administered in conjunction with salicylates in a case of rheumatic fever. Both drugs were given orally. Blood tests showed that PABA and salicylates appear to have a reciprocal effect in increasing their concentration in the blood. Later, this effect was apparently confirmed in two healthy men. The content of salicylate in the blood—obtained by oral administration of 10.6 Gm. of sodium salicylate daily with an equal amount of sodium bicarbonate—increases considerably after supplementary administration of 1.55 Gm. of PABA daily.

Additional studies are in progress to determine whether this phenomenon is dependent on competitive excretion by the kidney or on some other metabolic effect.—*Proc. Mayo Clin., 21:497, 1946*

GLYCOL, UV RAYS NOT READY FOR GENERAL PREVENTIVE USE

Pharmacists and workers in other health fields are receiving inquiries concerning the use of glycols and ultraviolet radiation in homes and public buildings to control airborne infections. For the guidance of the public and the professions Dr. R. E. Dyer, director of the National Institute of Health, U. S. Public Health Service, has issued the following statement.

"During the past few months, several articles have appeared in the public press relative to the possible efficacy of glycol vapors and ultraviolet radiation in reducing certain infectious diseases, particularly upper respiratory diseases, such as the common cold. Due to the fact that many inquiries have been made as to the possibility of using one or both of these methods in public buildings, it is felt that a statement should be made concerning the use of such installations.

"Committees of the National Research Council and the American Public Health Association have studied and reviewed the data on such installations. Within the past several weeks, these two Committees separately have submitted reports. Both of these Committees feel that the use of either glycol vapors or ultraviolet radiation is still purely in the experimental stage and that the data collected so far do not warrant the installation of such equipment in public buildings and industry in the hope of cutting down upper respiratory infection. The U. S. Public Health Service, through its research organization, the National Institute of Health, has conducted rather extensive studies on both glycol vapors and ultraviolet radiation and fully concurs in the reports and recommendations made by the Committees of the National Research Council and the American Public Health Association.

It must be emphasized that direct unshielded ultraviolet radiation of sufficient intensity to kill microörganisms in the air is also harmful to the eyes and exposed skin of humans.

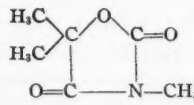
These observations are not intended to indicate that the future will or will not disclose new public health values in the application of either glycols or ultraviolet radiation. Much experimentation is needed, however, before a decision can be made as to whether such application may or may not be warranted."

NNR

PRODUCTS RECENTLY ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

Council descriptions of drug products are published regularly in THIS JOURNAL *as they are accepted. Rules upon which the Council bases its action appeared in the July (7:320) 1946 issue and may be secured in pamphlet form upon request to the Secretary, Council on Pharmacy and Chemistry, American Medical Association, 535 N. Dearborn St., Chicago.*

TRIMETHADIONE.—Tridione.—3,5,5-Trimethyloxazolidine-2,4-dione.—$C_6H_9NO_3$.—M. W. 143.14. The structural formula of trimethadione may be represented as follows:



Actions and Uses.—Trimethadione is primarily an anticonvulsant and has only minor analgesic properties. It is used in the treatment of epilepsy, in which it is principally effective in cases with seizures of the true petit mal type. Its results in this condition appear to be somewhat better in children than in adults. It is ineffective in grand mal. It is also useful in psychomotor epileptic seizures, especially with diphenyl hydantoin sodium when the latter alone is ineffective. It may be tried in myoclonic and akinetic seizures of organic origin but is generally less effective than in the idiopathic forms of the disease. It has been used with diphenyl hydantoin sodium and/or phenobarbital in cases in which attacks are complicated by grand mal seizures, but such use appears less rational and may in some instances serve to exaggerate the grand mal as the petit mal is decreased. It has been administered in solution by intramuscular injection to terminate attacks of status epilepticus, but such use is not of sufficiently established value to warrant recognition at the present time.

Toxic reactions to trimethadione appear to be relatively infrequent. Gastric irritation, nausea, skin eruptions, photosensitivity and blurring of vision with a diminution in visual acuity that is reversible may be encountered and are considered indications for temporary withdrawal or reduction in dosage of the drug. Photophobia appears to be less frequent in children than in adults. The skin manifestations that have been observed are not attributable to sensitization, and the visual disturbances have not been shown to be associated with optic nerve damage.

Rare cases in which aplastic anemia with a depression of all elements of the peripheral blood has occurred with the use of trimethadione indicate the need for repeated complete blood examinations in patients receiving this drug. It has been suggested that small initial doses be used and the patient cautioned to report at once any untoward symptoms that may ensue. Careful medical supervision of patients under treatment with trimethadione is essential. It should not be used in the presence of anemia, leukopenia, or thrombocytopenia and employed with caution, if at all, in any type of blood dyscrasia.

It is contraindicated in patients with advance renal or hepatic disease or with disease of the optic nerve.

Dosage.—In petit mal epilepsy, the dosage required may vary from 1 to 2 Gm. daily, given in divided doses of three to seven 0.3 Gm. capsules per day. In children under 6 years of age it is advisable to begin with 0.15 to 0.3 Gm. three times daily and to increase this if necessary. Optimum dosage must be determined for each patient.

Tests and Standards.—

Trimethadione occurs as a white, granular, crystalline substance possessing a slight camphor-like odor. It melts at 45°–46.5° C. It is soluble in water and freely soluble in alcohol, in benzene, in chloroform, and in ether. The *p*H of a 5% solution is about 6.0.
For tests and standards see *J. Am. Med. Assoc.*, 133: 320 (1947).

ABBOTT LABORATORIES, NORTH CHICAGO, ILL.

Tridione Capsules: 0.3 Gm.

STREPTOMYCIN.—Streptomycin is a purified active principle produced by certain strains of *Streptomyces griseus* when they are grown on suitable mediums. It has the property of inhibiting the growth and of occasionally destroying certain gram-negative bacteria. It may be prepared as several salts, including the hydrochloride and sulfate salts.

Actions and Uses.—Streptomycin is an antibiotic agent. It is not a pure product but is marketed as a sterile powder in airtight ampuls or vials, the activity in terms of milligrams or grams of pure streptomycin base being declared on the label. Streptomycin and its salts are reasonably stable but should be stored at a temperature not in excess of 15° C. Solutions of streptomycin are less stable than the dry powder and should always be kept in the refrigerator. Only freshly prepared solutions should be used parenterally.

Streptomycin is active *in vitro* against a wide variety of gram-negative organisms including such pathogens as Escherichia coli, Pasteurella tularensis, Hemophilus influenzae, Pseudomonas aeruginosa, Bacillus proteus, Eberthella typhosis and Brucella abortus. With certain outstanding exceptions, the *in vivo* activity of streptomycin parallels its *in vitro* activity.

Streptomycin is not appreciably absorbed when given by the oral route, although it is not signi-

ficantly destroyed in the gastrointestinal tract. For systemic action it must be given by the parenteral route.

Streptomycin is useful in the treatment of urinary tract infections due to streptomycin-sensitive gram-negative organisms. In the presence of obstruction, streptomycin is of only temporary benefit, and successful therapy depends on correction of the underlying anatomic condition. Pasteurella tularensis is highly susceptible to streptomycin, and this agent is the most effective treatment for tularemia at present available. Influenzal meningitis due to various Hemophilus organisms has been successfully treated with streptomycin, as have Hemophilus infections in other parts of the body. Wound infections, bacteremias, and other infections due to streptomycin-susceptible organisms may be treated with this agent.

Experience with streptomycin in the treatment of undulant fever, bacillary dysentery, and typhoid has been disappointing, and failure of therapy has been the rule. Until further work elucidates the place of streptomycin in these infections, its use cannot be recommended.

Although streptomycin shows promising results in the therapy of tuberculous infections in guinea pigs, the clinical experience in human infections has not been sufficiently large to delineate its precise role in the control of human tuberculosis. At best it does not appear to offer more than limited usefulness as an adjunct to other forms of therapy.

Streptomycin is capable of producing side reactions of varying severity. Certain lots have been found which produce a histamine-like reaction on parenteral administration with a fall of blood pressure and syncope. This is due to some accompanying toxic material, and its occurrence is now rare. The most serious toxic effect is its neurotoxic action on the eighth nerve, which may occur in about 10% of patients treated with large doses (3 to 4 Gm. daily) over periods of several weeks to months. This is characterized by vertigo, tinnitus, disturbance of equilibrium, and diminished auditory acuity. On cessation of therapy, partial recovery of eighth nerve function is the rule, although this recovery is slow, and vestibular function appears to be permanently impaired although compensation occurs. Minor toxic effects include skin rashes, mild malaise, muscular aching and drug fever.

Dosage.—For intramuscular injection, the powder should be dissolved in sterile, pyrogen-free distilled water or isotonic solution of sodium chloride to give a concentration of from 100 to 200 mg. of streptomycin base per cubic centimeter. For subcutaneous injection, more dilute solutions are recommended. If the drug is administered by intravenous drip, 1 to 2 Gm. dissolved in a liter of isotonic solution of sodium chloride may be administered at a rate of about 25 drops per minute. For intrathecal administration 10 to 20 mg. per cubic centimeter in isotonic sodium chloride solution should be used. For topical application, solutions containing 25 to 50 mg. per cubic centimeter may be used.

The dosage of streptomycin should be governed by the susceptibility of the organism responsible for the infection. In severe fulminating infections, doses of 2 to 4 Gm. daily may be necessary, given in divided doses, parenterally, every three hours. In less severe infections, and with highly susceptible organisms, daily doses of from 1 to 2 Gm. may be sufficient. Treatment should be continued for at least forty-eight to seventy-two hours after the temperature returns to normal and all signs of infection have disappeared.

It is important to give sufficiently large doses to inhibit or kill the infecting organisms quickly, since the development of "fastness" to streptomycin is common and may occur rapidly. Inadequate dosage predisposes to the development of resistant strains of the organisms.

ABBOTT LABORATORIES, NORTH CHICAGO, ILL.

Streptomycin Sulfate: Vials containing streptomycin sulfate equivalent in activity to 1 Gm. of streptomycin base (one million units).

MERCK & CO., INC., RAHWAY, N. J.

Streptomycin Hydrochloride: Vials containing streptomycin hydrochloride equivalent in activity to 1 Gm. streptomycin base (one million units).

CHAS. PFIZER & CO., INC., NEW YORK

Streptomycin Hydrochloride: Bottles containing streptomycin hydrochloride equivalent in activity to 0.375 Gm. of streptomycin base.

Streptomycin Sulfate: Bottles containing streptomycin sulfate equivalent in activity to 1 Gm. of streptomycin in base.

CONTRACEPTIVE JELLIES AND CREAMS

(See New and Nonofficial Remedies, 1946, p. 360).

The following article has been accepted:

HOLLAND-RANTOS COMPANY, INC., NEW YORK

Koromex Cream: 78 Gm. collapsible tubes. A water soluble stearic acid emulsion having a *p*H of 4.2, prepared from the formula:

Stearic acid	20.0%
Cetyl alcohol	1.0
Glycerin	5.0
Boric acid	2.0
Oxyquinolin benzoate	0.02
Phenylmercuric acetate	0.02
Polyoxyalkalene sorbitan monostearate	3.0
Sorbitan monooleate	5.0
Perfume	0.015
n-Butyl-*p*-hydroxybenzoate	0.02
Water	*q. s.*

Packaged with a vaginal applicator or in refill packages containing a tube of cream only.

U. S. trademark 213,756.

Actions, Uses, and Dosage.—See article, Contraceptive Jellies and Creams, N.N.R. 1946, p. 357.

Koromex Applicator: A transparent plastic syringe, threaded at the blunt, intravaginal end to screw onto the tubes of Koromex Cream to per-

mit filling by compression of the tube. The full capacity is 5 cc., the recommended dose.

THEOPHYLLINE (See New and Nonofficial Remedies, 1946, p. 395).

The following dosage form has been accepted:

E. S. MILLER LABORATORIES, INC., LOS ANGELES

Tablets Theophylline: 0.1 Gm.

PHENOBARBITAL (See New and Nonofficial Remedies, 1946, p. 530).

The following dosage forms have been accepted:

THE HARROWER LABORATORY, INC., GLENDALE, CALIF.

Tablets Phenobarbital: 32 mg.

THE VALE CHEMICAL CO., INC., ALLENTOWN, PA.

Tablets Phenobarbital: 16 mg., 32 mg., and 0.1 Gm.

THIAMINE HYDROCHLORIDE (See New and Nonofficial Remedies, 1946, p. 618).

The following dosage forms have been accepted:

WILLIAM H. RORER, INC., PHILADELPHIA

Tablets Thiamine Hydrochloride: 1 mg. and 5 mg.

Solution Thiamine Hydrochloride, 50 mg. per cc.: 10 cc. vials. Preserved with 0.5% chlorobutanol.

BACTERIAL VACCINE MADE FROM HEMOPHILUS PERTUSSIS (See *J. Am. Med. Assoc.*, Jan. 5, 1946, p. 31).

The following dosage forms have been accepted:

E. R. SQUIBB & SONS, NEW YORK

Pertussis Vaccine (Single Strength): 8-cc. and 24-cc. vials. 10,000 million *H. pertussis* per cubic centimeter. Preserved with phenol 0.5%.

Pertussis Vaccine (Double Strength): 5-cc. and 20-cc. vials. 20,000 million *H. pertussis* per cubic centimeter. Preserved with phenol 0.5%.

PERTUSSIS VACCINE ALUM PRECIPITATED (See *J. Am. Med. Assoc.*, Jan. 5, 1946, p. 31).

The following dosage form has been accepted:

THE UPJOHN CO., KALAMAZOO, MICH.

Pertussis Vaccine (Alum Precipitated): 3-cc. vials (one immunization) and 10-cc. vials (three immunizations). 10,000 million *H. pertussis* per cubic centimeter. Preserved with phenol 0.5%.

PERTUSSIS VACCINE COMBINED WITH DIPHTHERIA TOXOID (See *J. Am., Med. Assoc.* Jan. 5, 1946).

The following dosage form has been accepted:

THE UPJOHN CO., KALAMAZOO, MICH.

Pertussis Vaccine, Diphtheria Toxoid, Combined, Alum Precipitated: 3-cc. vials (one immunization) and 10-cc. vials (three immunizations). 10,000 million *H. pertussis* per cubic centimeter. Preserved with sodium ethyl mercuri thiosalicylate 1 : 10,000.

PENICILLIN OINTMENT (See *J. Am. Med. Assoc.*, Nov. 2, 1946, p. 515).

The following dosage form has been accepted:

SCHENLEY LABORATORIES, INC., LAWRENCEBURG, IND.

Penicillin Calcium Ophthalmic Ointment: 3.54-Gm. tubes. Each gram contains 2000 units of penicillin calcium in white petrolatum, U. S. P.

EPHEDRINE SULFATE (See New and Nonofficial Remedies, 1946, p. 286).

The following dosage form has been accepted:

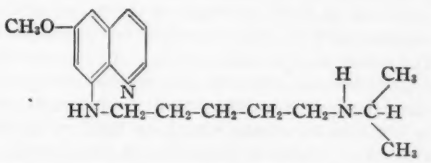
THE HARROWER LABORATORY, INC., GLENDALE, CALIF.

Capsules Ephedrine Sulfate: 24 mg. and 49 mg.

COUNCIL REPORTS

PENTAQUINE, NONPROPRIETARY NAME

Recently there has been developed a new effective antimalarial chemical compound known as SN 13,276 having the following structural formula:



6-Methoxy-8-(5-isopropylaminoamylamino)quinoline

The compound was investigated through parallel studies with pamaquine and other 8-aminoquinolines, conducted at civilian centers under the sponsorship of the Committee on Medical Research of the Office of Scientific Research and Development and various army installations.

Through a spokesman for the Board for the Coordination of Antimalarial Studies, it was proposed that the Council give consideration to the name Pentaquine as a suitable designation for this compound.

After due consideration of its antimalarial status and deliberation to ascertain the chemical suitability and freedom from confusion with other names now in use in this country, the Council voted to adopt the proposed name Pentaquine as the nonproprietary name for the new antimalarial compound previously designated as SN 13.276.

REQUIREMENTS FOR ACCEPTED CONTRACEPTIVES

A REPORT AUTHORIZED BY THE COUNCIL ON PHYSICAL MEDICINE, AMERICAN MEDICAL ASSOCIATION

THE following requirements for acceptability of contraceptive devices of a physical nature, such as diaphragms and caps, stems and rings, tampons and sponges, devices for insertion, condoms and sheaths, have been proposed by the Consultants on Contraceptive Devices of the Council on Physical Medicine. These have been adopted by the Council, but it should be emphasized that there may be changes from time to time as the evidence indicates.

I. ACCEPTABLE EVIDENCE:

(A) Medical evidence to be acceptable must have been collected by physicians with special experience in the field of contraception or obstetrics and gynecology.

(B) Evidence regarding the physical and chemical characteristics of the device must have been collected by individuals competent in the field.

II. EFFICACY:

The device shall meet the following test of effectiveness: Each patient shall be observed for a minimum of twelve months. The minimum patient-years experience shall be seventy-five years. This may be obtained by observing 75 patients for one year, 50 patients for eighteen months or preferably 38 patients for two years or 25 patients for three years. Only patients pronounced as presumably fertile shall be used. If patients are excluded from the series on the basis of their being irregular users, the number excluded and the nature of the evidence justifying their exclusion shall be provided. The device shall provide a degree of protection as great as is consistent with good practice concerning the article under consideration, the protection to be obtained in women who have been compared with others habitually practicing no contraception.

III. HARMLESSNESS:

(A) Evidence shall be submitted showing that 100 or more couples have used the device on six or more occasions without subjective injury or sensations of pain, distress, or discomfort. The refusal rate and the cause thereof shall be provided for this group of 100 patients and for the group of patients used for obtaining seventy-five or more patient-years of experience.

(B) Evidence shall be required showing that the device had been used by 20 or more patients on twenty-one successive days without irritation or injury or evidence of physical damage as disclosed by examination with a speculum. This evidence is to be supplied in addition to similar evidence obtained on the group of patients used to establish efficacy in seventy-five patient-years of experience.

(C) Where the device is a brand of a type previously known to or accepted by the Council on Physical Medicine, the evidence required by the two preceding paragraphs may be waived.

IV. DESIGN:

(A) The design of the device and accessories shall be satisfactory to the Council.

(B) If a syringe applicator or nozzle is furnished for use in connection with a jelly or cream, it shall be sufficiently translucent to permit the detection of air which might lead to inadequate dosage.

V. DURABILITY:

(A) Condoms must have a shelf life of at least one year, and the date of expiration shall be stamped on the package so as to be readily seen by the purchaser. The shelf-life test shall be conducted at a temperature of 37° C. and a humidity of from 10 to 30 per cent. At the end of the test or the expiration date stamped on the package, the condom shall not permit the passage of air when it is distended with air under a pressure of 0.2 pound per square inch and immersed in water.

(B) The package containing a diaphragm shall be stamped with the date of manufacture. The instructions packed with the diaphragm shall show the date of manufacture, and the instructions shall provide the life expectancy on the basis of evidence submitted to the Council regarding the shelf life and the use life in combination, and when used with a known and acceptable jelly or cream. At the end of the life expectancy claimed, the diaphragm shall not permit the passage of water or a methylene blue solution under a pressure of 0.5 pound per square inch, the test being conducted so as to detect leaks about the rim.

VI. DIRECTIONS TO USERS AND ADVERTISING:

(A) The directions shall include a warning that the user should not expose the device to agents such as ordinary oils and greases or hot water, which will damage the device. Evidence shall be submitted showing the ordinarily available agents which damage and do not damage the device.

(B) The directions shall include the appropriate means for cleansing the device.

(C) The directions packed with each device whose performance depends on an intact membrane shall direct the user to inspect the device for holes and tears and to discard it if one is found.

(D) The advertising and directions of the manufacturer shall make it clear that contraceptive diaphragms (and caps), tampons and sponges are intended for use in conjunction with spermicidal jelly or cream and should direct attention only to those accepted by the Council on Pharmacy and Chemistry.

(E) The advertising and directions must not state or imply that the appropriate diaphragm or cap, or other device, can be chosen without the aid of a physician.

(F) The advertising and directions and other printed matter packed with the device shall be satisfactory to the Council.

(G) The results of the investigation by the Council of devices submitted will be published, but the use of the "seal of acceptance" will not be allowed.

ADR

DENTAL REMEDIES RECENTLY ACCEPTED BY A. D. A. COUNCIL ON DENTAL THERAPEUTICS

Admission to Accepted Dental Remedies *means that a product and the methods by which it was marketed at the time of consideration were not found to be in violaton of the published rules of the Council on Dental Therapeutics. A summary of the rules appeared in* THIS JOURNAL, *7:* 153 (*April*), *1946: Accepted products are reconsidered periodically.*

DENTURE ADHERENT POWDERS[1]

Wernet's Powder (Denture Adhesive): Each 100-Gm. is stated to contain karaya gum, 99.88 Gm., and flavor, 0.12 Gm. Manufactured by WERNET DENTAL MFG. CO., INC., JERSEY CITY, N. J.

Afko Denture Grip: Product consists of karaya gum. Manufactured by AMERICAN PHARMACEUTICAL CO., INC., NEW YORK.

Moy Holding Powder: Each 100 Gm. is stated to contain karaya gum, 90.14 Gm.; sodium tetraborate, 9.82 Gm.; and oil of peppermint, U. S. P., 0.04 Gm. Manufactured by the J. BIRD MOYER COMPANY, PHILADELPHIA.

ANESTHETICS—LOCAL[2]

Procaine HCl 2%, Neo-Synephrine HCl 1:3333. Composition: Each cubic centimeter is stated to contain procaine hydrochloride, 0.02 Gm.; neosynephrine HCl (Stearns), 0.00033 Gm.; sodium bisulfite, 0.02 Gm.; sodium chloride, 0.00244 Gm.; chlorobutanol, 0.005 Gm., in distilled water. Marketed in 2.1-cc. tubes. Manufactured by PROCO-SOL CHEMICAL CO., INC., PHILADELPHIA.

CALCIUM COMPOUNDS[3]

No. 100 Calcium Carbonate U. S. P.-Whittaker, Clark & Daniels: No. 100 Calcium Carbonate U. S. P.-Whittaker, Clark & Daniels is stated to comply with the U. S. P. It is used in the manufacture of dentifrices.

Distributed by WHITTAKER, CLARK & DANIELS, INC., NEW YORK.

Particle Size: The percentage distribution of the particles according to diameter in microns is as follows: less than 1 micron, 5%; 1 to 3 microns, 70%; 3 to 6 microns, 25%; 6 to 10 microns, occasional particles; 10 to 12 microns, none.

Density and Abrasiveness: Flow, 27 to 40 cc.; 24 hours sedimentation, 40 to 55 cc.; drop density, 0.55 to 0.4 Gm. per cubic centimeter; abrasiveness, 6.7 mgs.

ANESTHETICS—GENERAL[4]

Ethyl Chloride, U. S. P.—The Ohio Chemical & Mfg. Co.: A brand of ethyl chloride, U. S. P. Distributed by the OHIO CHEMICAL & MFG. CO., CLEVELAND.

1. See *Journal American Dental Association*, **33**: 1593 (December 1) 1946.
2. See *Accepted Dental Remedies*, Ed. 12, p. 48.
3. See *Accepted Dental Remedies*, Ed. 12, p. 145.
4. See *Accepted Dental Remedies*, Ed. 12, p. 42.

COUNCIL REPORTS

SYNTHETIC FLUORIDE TABLETS

During the past year, many tablet preparations which contain some synthetic salt of fluorine, usually calcium fluoride, and one or more vitamins have been offered to dentists for use as dietary supplements in the control of dental caries. The recommended dosages would provide up to 3 mg. of calcium fluoride daily, an amount which appears not to be stored to a significant extent in the human body.[1]

The use of fluorides in caries therapy is based on the finding that an inverse relationship exists between the amount of fluorine occurring naturally in drinking water supplies (up to 1 part per million) and the incidence of tooth decay in school-age children.[2] No direct evidence is available to substantiate the hypothesis that the addition of synthetic fluorides to otherwise fluorine-free waters is efficacious in the control of caries, although demonstrations designed to clarify this point are in progress.

Direct clinical evidence of the effect on caries of dietary supplements of solid synthetic fluorides is meager. There is evidence[3] which indicates a decrease in the number of new dental lesions in children who received daily supplements of 3 mg. of calcium fluoride for periods of six and eight months. However, certain factors, among them the comparatively small numbers of persons in the experimental groups which consisted of fifty-seven, thirty, sixty-eight, and seventy-three subjects, respectively, wide age range of subjects (8 to 16 years), and lack of adequate control in all phases of the study, render a positive conclusion impossible.

An hypothesis that fluorapatite may be formed on the surface of the enamel by reason of the presence of fluorides in the saliva after chewing and ingestion of tablets containing calcium fluoride and vitamins C and D appears to be unwarranted in view of the insignificant secretion of fluorine in the saliva,[4] the comparative insolubility of calcium fluoride and the complexity of the physiologic process by which apatite-like material is deposited in bones and teeth.

Differences in caries incidence, which Strean and Beaudet assumed to indicate a synergistic effect of vitamins C and D with fluorine, are without apparent significance, owing to wide individual variation. In this connection it is of interest to note that available knowledge fails to indicate whether dietary influences continue to act on the teeth after they are completely formed.[5] The employment of vitamins as a therapeutic measure against dental caries is largely presumptive, whether they are used in conjunction with calcium fluoride or other fluorides.

Though probably not dangerous in amounts recommended for daily consumption, fluoride added to diets already high in fluorine content or consumed in areas where water supplies contain significant concentrations of fluorine may constitute a health hazard. This possibility and the inconclusive nature of experimental evidence concerning their effectiveness render synthetic fluoride and fluoride-vitamin preparations for use in the treatment of dental caries not acceptable for inclusion in Accepted Dental Remedies at this time. The Council recognizes that the potential value of scientifically formulated oral fluoride preparations may be established at some future time, and will give consideration to further data from time to time as they appear.

BONE MEAL PREPARATIONS

During recent months there have appeared on the market a number of preparations containing powdered cattle bone supplemented with vitamin D for the treatment and prevention of dental caries. Basis for their use is the assumption that active tooth decay is, to a significant extent, a manifestation of individual or combined deficiencies of calcium, phosphorus, fluorine, and vitamin D. Although it may be conceded that these dietary factors, with the possible exception of fluorine, are essential during the development of the teeth, available evidence does not indicate whether they are important after tooth formation is completed.[6] Despite the array of reports attributing to fluorine a caries-inhibiting role, analysis of the literature on this subject[2] discloses a lack of conclusive information. This lack renders largely presumptive any course of treatment in which fluorides, natural or synthetic, are ingested to influence the incidence and severity of the disease.

Harootian[6] and Martin[7] have reported clinical evidence regarding the use of bone meal in the treatment of dental decay. The former observed a beneficial effect and credited it to the fluorine content of the bone, but inadequacies in the number of subjects (nine) and their control render positive interpretation of the results hazardous. The work of Martin is similarly inconclusive. Besides failing to demonstrate whether bone meal is effective against caries, these data leave an element of doubt as to the desirability of, or the necessity for, supplementation by vitamins. In addition, the finding that fluorine ingested in the form of bone meal is largely excreted in the feces may be significant.[1] It follows, therefore, that, until further direct evidence becomes available, bone meal-vitamin D preparations must be considered as having no more than potential usefulness in the therapy of tooth decay.

In view of the lack of evidence to show that they are effective, preparations of bone meal for the treatment of dental caries are declared not acceptable for inclusion in Accepted Dental Remedies. New evidence will be considered by the Council as it appears.

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1. McClure, F. J., *et al.;* Balances of Fluorine Ingested from Various Sources in Food and Water by 5 Young Men; Excretion of Fluorine Through the Skin. *J. Indust. Hyg. & Toxicol*, **27**: 159(June) 1945.
2. Jay, Philip; Fluorine and Dental Caries. *J. Am. Dent. Assoc.*, **33**: 489(April 1) 1946.
3. Strean, L. P., and Beaudet, J. P.; Inhibition of Dental Caries by Ingestion of Fluoride-Vitamin Tablets. *N. Y State J. Med.*, **45**: 2183(October 15) 1945.
4. Wills, J. H.; Secretion of Intravenously Injected Fluorine in Submaxillary Saliva of Cats. *J. D. Res.*, **19**: 585(December) 1940.
5. Am. Dent. Assoc. Research Commission, *Dental Caries*, New York, 1941 (2nd edition), p. 252.
6. Harootian, S. G.; The Influence of Administration of Bone Flour on Dental Caries. *J.A.D.A.*, **30**: 1396(September 1) 1943.
7. Martin, E. M.; Report on Clinical Use of Bone Meal. *Canad. M.A.J.*, **50**: 562(June) 1944.

BLADAN MAY SUPPLEMENT DDT

"Bladan," a new German insecticide, shows sufficient promise to warrant field trial, the U. S. Department of Agriculture announces following laboratory tests. Hexaethyl tetraphosphate, the active constituent, appears effective against mites and aphids that are apple pests and are not controlled by DDT. Unlike DDT, the chemical is water-soluble, unstable in solution, and does not have a lasting residual effect. But if extensive trial bears out the early promise of "Bladan" it would be a welcome supplement to DDT—the former to control mites and aphids, the latter to control the codling moth.

FROM THE SECRETARY'S DECEMBER DIARY

—3rd—

THE beautiful weather continues and snow is farthest from the minds of Washington's citizenry. Much of today spent with Cyrus S. Fleck, who manages the Mack Printing Co. and publishes our JOURNALS and N. F. It looks as if N. F. VIII is greatly in demand.

—4th—

A visit from Dr. Tom Jones of the University of Illinois Medical School to view the building and give advice on the design for the bronze base of the memorial flagstaff. Staff members enjoyed his company at luncheon at the Watergate Inn.

—5th—

This day a visit from Prof. Lindholm of the Danish Pharmaceutical Society and School of Pharmacy who is spending some time in reviewing progress in his specialty, which is bio-chemistry, at the Food and Drug Administration and in various American laboratories and institutions. With him came Dr. E. M. Nelson, vitamin expert of FDA, and there was much spirited conversation and interchange of information terminating at a luncheon with A. PH. A. staff members at the Watergate. An exchange of views on matters pharmaceutical with European colleagues who visit here is very helpful all around.

—7th and 8th—

Much telephone conversation over the week end with Chairman Tom Rowe of the National Pharmacy Week Committee and officers of the American Cancer Society to whip the 1947 program into shape, and it is coming along well. A rush of special delivery mail from late voters who made the December 6 deadline.

—9th—

A busy morning in New York with Tom Rowe, Bob Swain and others discussing Pharmacy Week and other A. PH. A. business, and then to the midwinter meeting of the American Pharmaceutical Manufacturers' Association, which has developed into a highlight of pharmacy's public relations. This year the distinguished service award of the A. P. M. A. went to the Mayo Clinic amid a program of outstanding interest and significance, with such internationally recognized figures as Dr. Isaiah Bowman, president of Johns Hopkins University and Dr. Donald C. Balfour, director of The Mayo Foundation for Medical Education and Research, on the program at the Waldorf-Astoria Hotel.

Charles Wesley Dunn has provided a most outstanding program for these affairs in recent years and they have raised the level of public appreciation of the drug industry materially. At the close of the meeting a cocktail party with S. B. Penick Company as hosts.

—10th—

Finishing up all New York business and after the daily contact with the Washington office by telephone departed for Trenton, N. J., to meet with the State Board of Health. Later to Philadelphia to preside over the annual meeting of the Joint Committee of A. PH. A. and American Social Hygiene Association, laying plans for Social Hygiene Day which occurs February 5, 1947, and calls for active participation of pharmacists in continuing the eternal combat against the spread of venereal disease. Completed the business in time to board the 8:10 train for Washington in the company of Dean DuMez as far as Baltimore.

—11th—

All the morning catching up with the accumulated routine and then the afternoon spent with the Committee on National Pharmacy Week. Bert Mull and Walter Chase, who had come on from Indianapolis and Detroit respectively, contributed much to the evolution of the 1947 program, as did Jean Henderson of U. S. Public Health Service and Chairman Tom Rowe. And it looks as though Glenn Sonnedecker, secretary of the Committee, and the A. PH. A. staff have their work well cut out for them. To dinner at the Washington with Bert Mull discussing many problems, and then the home work.

—12th—

A busy day with architects and contractors working on arrangements for the memorial flagstaff; with lighting engineers to improve working conditions in museum space now commandeered for offices; and with staff members having special problems. And all the while the long distance calls interrupting but emphasizing the extent to which A. PH. A. headquarters functions as the nerve center of pharmaceutical activity—which is as the founders intended and the membership expects.

—13th—

After the day's toil a pleasant reunion of the staff of the Office of Civilian Requirements of the War Production Board at the Mayflower Hotel. It was interesting to note the diversified peacetime activities of the many experts who came to Washington during the War to keep the civilian economy at a satisfactory level while the armed forces had priority on all production and resources.

—16th—

Another of the busy Mondays which do not vary from week to week because the postoffice seems to accumulate all the second and third class mail for

week-end distribution. With budgets, staff conferences and the mail there seems no end to this routine. A few straggling ballots, now postmarked after December 6, still arriving.

—17th—

An early morning conference with Pharmacy Corps Major Bernard Aabel, who needs additional pharmacy officers to fill quotas and finds it difficult to recruit them. We can give little assistance because the sources of raw material have dried up, as former Army pharmacists prefer peacetime pursuits. At luncheon with the Board of Canvassers—Bliven, Briggs and Hazleton—making preliminary plans to count upward of 4000 ballots cast in the A. PH. A. election of officers. A long session with the Associated Press writer who is preparing a barbiturate story, and then a meeting with Carson Frailey and George Sibley on the effect of the World Health Organization program on pharmaceutical exports.

—18th—

Much of the day reviewing 1947 budget requirements with staff members Powers, Green, Sonnedecker and Nowell. After dinner a long session with Raymond T. Rich who advises non-profit organizations on matters involving their public relations.

—19th—

Most of this day in Baltimore with Swain, Dunning and Schaefer, who constitute the Council's Committee on Finance, for a preliminary meeting on the 1947 budget. Went through a thorough grilling on every item of the budget, particularly those for which increased expenditures were asked. This committee is hard-boiled, as it should be, but it has A. PH. A.'s mission to advance the profession clearly in mind. Received definite instructions to cut, revise and balance before the next meeting. During the morning dropped in to pay respects to Mel Strasburger, hard-working secretary of the Maryland Pharmaceutical Association.

—23rd—

An early morning conference with the contractors and architects, and then by motor to Baltimore for Mrs. E. G. Eberle's funeral, acting as a pallbearer. At the office in Washington later talking with Dr. Herwick and Dr. Stormont about FDA enforcement matters and winding up the pre-holiday essentials.

—24th—

Early in the afternoon by motor on the way home to spend Christmas. No snow or ice to impede traffic and the going through the large and small towns was smooth and interesting, for one could note the eager expectancy on the faces of the young and the hustle and bustle of last minute preparation on the part of elders.

—26th—

After a quiet Christmas Day at home and a good dinner, back to Washington by train, stopping enroute for a brief visit with Jack Debus at Trenton who conducts the N. J. Ph. A. office.

—30th—

Today came the Board of Canvassers and their associates and very glad to turn over to them the original sealed envelopes containing the sealed ballots to the tune of more than 4200, representing an unprecedented vote of nearly 55% of the total active membership. By a system previously worked out and with staff help on the purely mechanical routine of opening the two envelopes guarding each ballot, the canvassers were able to complete the job of counting in a continuous session from 9:30 a. m. to 6:00 p. m., with a brief recess for luncheon served in the headquarters building. A splendid job, efficiently performed.

—31st—

Working on the announcement of the election of officers and notifying those elected. In the afternoon bidding farewell to Mary Nancy Green who had spent about two years with us as a chemist in the A. PH. A. Laboratory and now expects to make her home in Georgia. A handsome travel bag was graciously presented to "Nancy" by Dr. Powers on behalf of the staff.

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Science News Capsules

THINKING WITH MACHINES was the subject of a recent conference of 200 mathematicians gathered at Harvard. The latest automatic digital computing machine was demonstrated, which performs thousands of lightning additions or multiplications to solve problems heretofore too long or involved for any practical solution. A problem: How can man handle the huge output of answers when the machine can compress a lifetime of human computation into a few days. One answer offered was an electronic device for "writing" 20-digit numbers on a row of cathode-ray tubes, then recording such electron-written answers photographically in rapid succession.

DEFICIENT OXYGEN SUPPLY for unborn infants may result in death or damage to the central nervous system, experiments at the University of California Medical School indicate. Oxygen carried to the fetus by the mother's erythrocytes may be decreased by such factors as lowered circulation late in pregnancy, degeneration of connective tissue, and nutritional deficiencies. Anesthetics and analgesics used in childbirth may further reduce the oxygen supply. Evidence concerning the significance of these observations is still inconclusive.

THE SWEETEST SUBSTANCE KNOWN, a new compound 4000 times as sweet as cane sugar, was developed in the Netherlands during the war. Derived from benzene, this new sweetening agent is 1-*n*-propoxy-2-amino-4-nitrobenzene, or *n*-propoxy for short. Saccharin, a similar type of compound, is only 200 to 700 times as sweet as sugar.

CAMPTOCORMIA is the name given to a rare psychological ailment that causes humans to assume the posture of gorillas. Persons suffering from this disease stand with trunk bent forward from the waist and with the arms hanging in anthropoid fashion. Although there is nothing physically wrong, the patient cannot straighten out no matter how hard he tries. Recent studies seem to show that the illness is a physical acting out of a psychological feeling of suppression and inferiority.

FATTY ACIDS secreted by the scalp, which have antifungal action, may account for the absence of ringworm scalp infections in adults and for the incidence of this disease in children. Hair fat of adults has been found to contain five times as much fungicidal fatty acids as the hair fat of children. It is hoped that pelargonic acid, one of these fatty acids, may prove to have preventive usefulness in connection with ringworm epidemics among children.

ISOLATION OF THE PUREST POLIO VIRUS yet obtained has been announced by researchers at Stanford University. This virus, which is 80% pure or better, might provide an effective vaccine against infantile paralysis. Small yield of the virus, obtained from the brain and spinal cord of cotton rats infected with infantile paralysis, presents a major obstacle to production of a vaccine.

RELEASE OF ATOMIC ENERGY at present is based on a mass decrease of only about one hundredth of one per cent. When nuclear physicists learn more of the secrets of the atom, atomic blasts might be possible that would make the weapons of Hiroshima, Nagasaki, and Bikini seem "like the flash of a cap pistol in comparison to a new super bomb," according to a University of Texas physicist.

A UNIVERSAL REDUCING AGENT for organic compounds has been reported to the American Chemical Society. This chemical, lithium aluminum hydride, is capable of reducing highly stable organic compounds at room temperatures and normal pressure. It is easily prepared from lithium hydride and aluminum chloride. The reducing agent is a white crystalline solid readily soluble in ether. It has been successfully applied to the reduction of aryl nitro compounds to the azo acids, nitriles to primary amines, and ketones, esters, aldehydes, anhydrides and acid chlorides to their corresponding alcohols.

SPEED OF ATOMIC PARTICLES can now be measured to one thousandth of a millionth of a second with a new electronic "stopwatch" developed in Yale University laboratories. This instrument also counts the atomic particles and determines the energy of the charged particles in nuclear reactions.

PHOTOCELLS SENSITIVE TO RED LIGHT far beyond the region visible to the human eye or that detectable by the best photographic plate may now be used to see some of the secrets of our universe behind interstellar clouds and will enable us to observe invisible or "dark" stars. The cell's sensitivity to infrared light may give important data on the nature of interstellar dust particles through a study of their effects in reddening the light from distant stars.

THE I. Q. of the average mental patient is eight points below the normal expectancy of 100 points, alcoholics and neurotics rating highest intellectually, and epileptics and syphilitics among the lowest on the average. One thousand New Hampshire State

Hospital patients representing 21 different kinds of mental illness were given intelligence tests. Though it was shown that these patients had had about as much school education as the general population of the United States, they did not reach as high occupational levels before entering the hospital as the population of the state as a whole.

RADAR BEARINGS OF THE SUN indicate that the newly discovered radio noise is definitely of solar origin. The sun sends up its own radio antennae—long, thread-like prominence filaments that surge into coronal regions—for broadcasting to the earth. All electromagnetic waves below a certain frequency are retained. The greatest portion of the sun static, picked up by radar and television, comes from active sunspot regions rather than from the entire surface.

HORSES BECAME HORSES because grass began to grow on earth, according to Prof. D. M. S. Watson of London's University College. About thirty million years ago when grasses evolved and sweeping climatic changes drastically reduced the amount of forest, ancestral "horses" quit hovering around the brushy edges of the forests and ventured out onto the developing open plains. The present complex, high-crowned type of back teeth, characteristic of horses, supposedly evolved to grind their new food. Need for fleet escape across the plains to avoid predatory animals was apparently responsible for evolution of the long, powerful legs of the horse.

BETTER KNOWLEDGE OF GROWTH processes, including those of cancerous tissue may result from recent experiments in which fragments of embryo chick heart tissue have been kept alive and pulsing for as long as six weeks in a solution of exactly known chemical composition under completely controlled conditions. Dextrose, several mineral salts, 11 vitamins, and 12 amino acids made up the nutrient solution. This solution will be studied in more detail, will probably be simplified and may ultimately need to be enlarged. Once a really successful animal tissue culture fluid has been developed, capable of sustaining life and growth indefinitely, the basic biochemical differences between normal and cancerous tissue could be studied.

AMERICIUM, ELEMENT 95, has been purified in sufficient quantities to permit a study of its chemical properties. The amounts available were even smaller than those in the case of neptunium and plutonium, the previously purified synthetic, transuranic elements. Curium is the only one of the synthetic elements not yet isolated in pure form but this may be possible if and when such isotopes as curium 243, 244, 245, or 246 are produced.

PITCHBLENDE AND CARNOTITE, uranium-bearing ores, are the most sought after ingredients of the earth's crust. Uranium deposits, from which the atomic bomb or atomic power piles can be made, would be priceless monopolies of a government, until and if a United Nations atomic development authority takes over.

CMC is the designation given to an improved water-soluble cellulose gum (Hercules Powder Co.) having many uses as an emulsion stabilizer and suspending agent. It is the sodium salt of carboxymethyl-cellulose formed by the reaction of monochloracetic acid with alkali cellulose.

NIACIN may be synthesized more cheaply from beta picoline by a new method developed at the Brooklyn Polytechnic Institute for separating this precursor from a mixture also containing gamma picoline and 2,6-lutidine.

PLASTIC-COATED FABRICS that are washable will be used for work gloves in the near future. The plastic vinyl butyral provides tough, flexible protection similar to leather.

EDNA AND DINA are designations for two explosives developed during the war. EDNA is ethylenedinitramine, a compound not quite as powerful as the super-high explosive RDX, but less touchy. DINA, di-(2-nitroxyethyl)-nitramine, needed for suppressing the blinding flash of artillery powder in night firing, was of particular value after the development of radar range-finding caused most naval gun battles to take place at night.

EFFECTIVENESS OF DDT against insects may be preserved by two chemicals, picolinic acid (GD 2100) and salicylal-amino-guanidine (GD 2101), which prevent decomposition by catalytic action of traces of iron.

LUCITE IN THE FORM OF TUBES may be used by surgeons of the future to repair the aorta, main artery carrying blood from the heart. Segments of the aorta, measuring one to three centimeters long, have been replaced by highly polished lucite tubes in animals and held in place by stitches of specially braided silk. Six months later the tubes were still firmly in place and the artery functioning normally.

———R———

WATER-PURIFYING TABLET

A new tablet of triglycine hydroperiodide, for use in purifying water through liberation of iodine, has been announced by the War Department. Being less objectionable in taste and odor than previously used chlorine compounds, the new iodine-containing tablet has greater sterilizing flexibility in that it can be used under a wide range of conditions. Tests show this chemical to be a safe and highly effective agent. Additional tests of the new "tablet, water purification, individual, iodine," as the compound has been designated, will be carried out this year.

New A. Ph. A. Members

The American Pharmaceutical Association extends a cordial welcome to the men and women joining in its expanded program on behalf of the profession. Those accepted for active membership during the month preceding December 20 are listed below.

NEW LIFE MEMBER

Hayman, J. Lester, Univ. of W. Va., Morgantown, W. Va.

ARKANSAS

Young, Daniel W., Pine Bluff

CALIFORNIA

McKnight, Thomas E., Los Angeles

COLORADO

Bruce, John B., Boulder
Whittaker, Ralph S., Denver

CONNECTICUT

Norcian, A. Francis, New Haven

DISTRICT OF COLUMBIA

Hirsch, Harry, Washington, D. C.

GEORGIA

Hytt, James H., Atlanta

ILLINOIS

Brown, W. Edwin, Quincy
Cerutti, Alfred, Rockford
Giese, Walter, Bloomington
Gliddon, Leroy B., Kirkland
Hedlin, Herbert L., Rockford
Johnson, Clifford I., Aurora
Johnson, Harold W., Chicago
Kappers, George J., Elmhurst
Levin, Harry E., Chicago
Long, Jacob A., Jacksonville
Mahler, William H., Elmhurst
Mother Bonaventure Bertocchi, Chicago
Nosek, William J., Cicero
Phalen, Francis E., Winnetka
Prosch, George, Berwyn
Reinhardt, Marie N., Rockford
Schayer, Walter J., Chicago
Shipley, Ned C., Waukegan
Umenhofer, A. Melvin, Chicago
Vlazny, John G., Chicago
Wild, Harold A., Joliet
Windsor, Byron L., Mackinaw
Wright, Maurice G., Chicago
Zorn, Howard H., Springfield

INDIANA

Clark, Spurling, Indianapolis

KENTUCKY

Wells, A. C., Munfordville

LOUISIANA

Dodds, Alvin F., New Orleans

MARYLAND

Brodsky, Emmanuil M., Baltimore
Futeral, Nathaniel, Baltimore

MASSACHUSETTS

Sherman, Harold G., Brockton

MICHIGAN

Bargagna, Joseph J., Dearborn
Bichkoff, Robert, Hamtramck
Casden, Earl L., Detroit
Finkelstein, Harry, Ann Arbor
Fisher, Carl E., Jr., Ferndale
Gearien, James E., Ann Arbor
Middleton, George C., Detroit
O'Neil, William F., Detroit
Scherer, Chester M., Detroit
Van Valkenburgh, Carl, Wyandotte

MINNESOTA

Bowles, Robert H., Minneapolis
Machov, Harvey, Minneapolis
Mueller, Lawrence H., Minneapolis
Rybak, Raymond T., Minneapolis

MISSOURI

Brown, Albert G., St. Louis
Carraw, Henry R., Bonne Terre

NEBRASKA

Berndt, Donald W., Minden
Mishler, John W., Jr., Omaha

NEW JERSEY

Alpern, Jacob, Freehold
Asbel, Barnett D., Passaic
Best, Albert A., Newark
Delvecchio, Abel D., Paterson
DiAmico, Anthony, Paterson
Felmeister, A., Jersey City
Gutterman, Isadore, Passaic
Lill, George A., Paterson
Maizel, Solomon, Paterson
Patt, Arthur M., North Bergen
Pinck, Joseph L., Paterson
Richards, Parke, Jr., Nutley
Schilke, Mrs. Audrey B., Englewood
Shalit, Nathan, Morristown

NEW MEXICO

Castle, Raymond N., Albuquerque

NEW YORK

Bennett, Rutherford A., New York
Chavkin, Leonard T., New York
Dankberg, Isidor B., New York
Lesser, Lawrence, New York
Liebson, Milton J., Brooklyn
Liotta, Frank J., Brooklyn
Reynolds, Preston M., Corning
Rosen, Charles, Brooklyn
Schulz, Ernest R., Long Island City
Stratton, Julian L., Long Island City

NORTH CAROLINA

Dameron, H. G., Tabor City

OHIO

Clifford, Robert P., Youngstown
Cousino, Joseph A., Toledo
Flynn, William J., Youngstown
Geyer, Ernest E., Hubbard
Harig, Oscar, Youngstown
Kline, Harry L., Youngstown
Krewson, Arthur E., Lakewood
Krewson, Mrs. Carrie M., Lakewood
Sonnenberg, James J., Cincinnati
West, Walter L., Youngstown

OKLAHOMA

Rabon, Edwin M., Tulsa

PENNSYLVANIA

Anderson, Wilbur C., Philadelphia
Burckart, William M., Erie
Caruso, Louis J., Westchester
Erskine, Clyde R., Upper Darby
Garlick, Joseph W., Havertown
Ginsburg, Henry, New Castle
Gordon, Mrs. Eleanor, Philadelphia
Kohl, William P., Jeannette
Schuette, Edwin R., Homestead
Shmokler, Leon, Philadelphia

RHODE ISLAND

Kayatta, Eugene V., Pawtucket

SOUTH CAROLINA

Mitchell, Sam D., Sumter

TENNESSEE

Terwilliger, George W., Memphis

TEXAS

Hess, John H., Jr., Sealy

VIRGINIA

Spence, W. R., Richmond

WASHINGTON

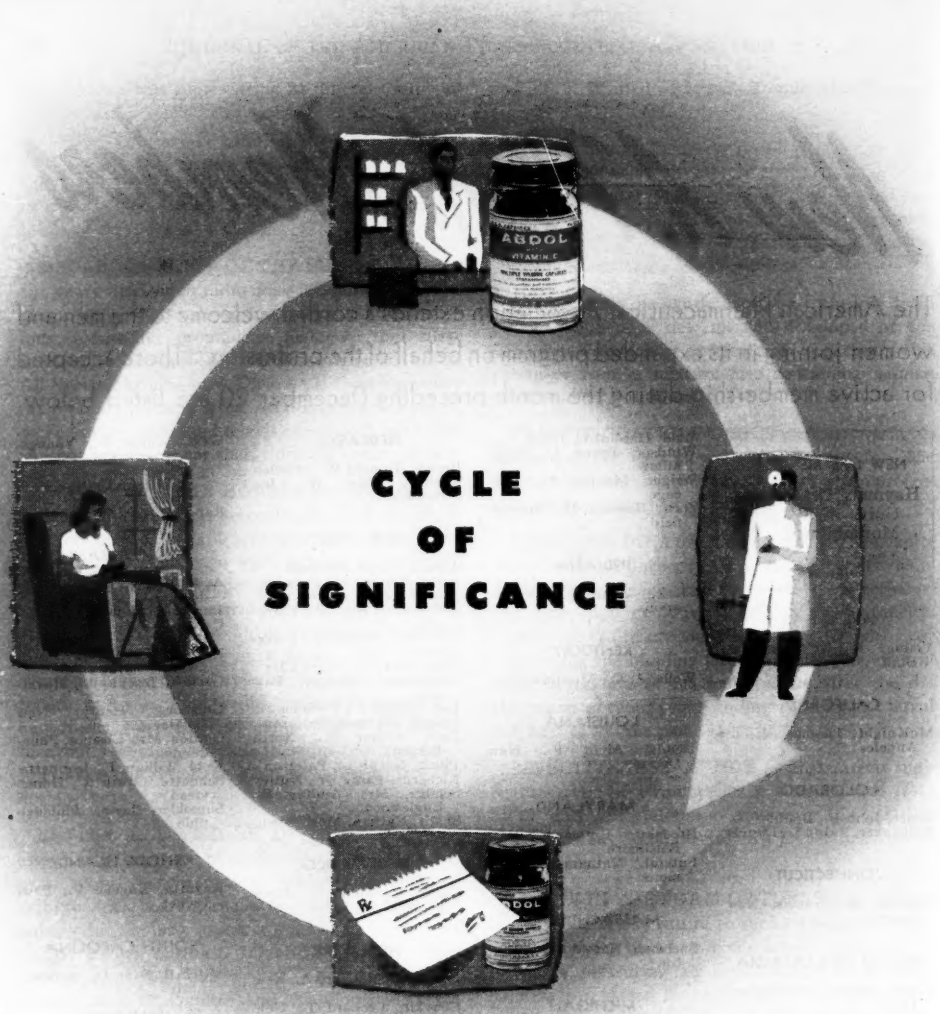
Gooch, John M., Seattle
Monteith, Frank E., Seattle
Nelson, Ned S., Tacoma

WEST VIRGINIA

Hertzog, Virgil R., Worthington
Schatz, Sidney J., Huntington

WISCONSIN

Belleau, Louis S., Green Bay
Dehmer, Wilbur K., Albany
Derge, Melvin, Racine
Mayer, Harry F., Kenasha
Nielsen, A. T., Racine



The cycle: Doctor — prescription — patient — pharmacist —

ABDOL WITH VITAMIN C

This cycle repeated again and again portrays graphically a unique sales pattern.

DOCTORS prescribe ABDOL with Vitamin C.

PRESCRIPTIONS assure its purchase at the pharmacy.

PATIENTS informed of their nutritional requirements by their physician, appreciate the importance of maintained vitamin supplementation.

PHARMACISTS know that ABDOL with Vitamin C is a potent multivitamin preparation affording results desired by both doctor and patient.

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ABDOL with Vitamin C. Multiple Vitamin Capsules, provide in each capsule:

Vitamin A	10,000 units
Vitamin D	1,000 units
Vitamin B_1 (Thiamine Hydrochloride)	2.5 mg.
Vitamin B_2 (G) (Riboflavin)	2.5 mg.
Vitamin C (Ascorbic Acid)	50 mg.
Nicotinamide	20 mg.
Pantothenic Acid (As Calcium Salt)	5 mg.
Vitamin B_6 (Pyrodoxine Hydrochloride)	0.5 mg.

Supplied in packages of 25, 100 and 250.

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MEDICAMENTA VERA

Sweetman, Wm. P., Racine
Vullings, Willard C., Wausau
Young, Oliver W., Neillsville.

FOREIGN

Gimenez, Fco. Ysern, Santurce, Puerto Rico
Gonzales de Lopez, Mrs. Josefina, Santurce, Puerto Rico
Lucas, William J., Montreal, Quebec, Canada
Masso Portilla, Felix J., San Juan, Puerto Rico
Mendez de Castro, Monsita, Santurce, Puerto Rico
Newton, Louis V., British Columbia, Canada
Pietri, Margarita Oms, Maxaguez, Puerto Rico
Ramirez, Manuel A., Santurce, Puerto Rico
White, Ralph M., Honolulu, Hawaii
Zadina, Rudolf, Prague II, Czechoslovakia

Deceased Members

Ehlers, Charles, Cincinnati, O. Died Nov. 17, 1946.
Sherwood, Henry J. (a life member), Cleveland, O. Died Nov. 18, 1946.

PARENTERAL VITAMIN B USED TO TEST CIRCULATION TIME

Parenteral vitamin B has been shown by Dr. Roy E. Swenson, Mercy Hospital, Pittsburgh, to be a suitable agent for determining the arm-to-tongue circulation time. Use of vitamin B complex for this purpose was suggested when patients complained of a taste similar to that of a vitamin tablet or brewer's yeast which occurred after the intravenous administration of B-complex.

The arm-to-tongue circulation time is of clinical value in the diagnosis of those diseases in which the venous return is obstructed and where the velocity of the blood flow is increased. According to this report vitamin B complex, given intravenously, is a suitable agent for this purpose since it appears to be nontoxic, has little effect upon circulatory dynamics, is readily available, is eliminated rapidly, and has an abrupt end point. The side reactions are minimal.

Using the commercial preparation "Solu-B," 5 cc. of the sterile isotonic saline solution were injected for each determination. A stop watch was used to determine the time from the beginning of the injection until the patient tasted the substance. When he no longer tasted the substance, a duplicate determination was made and the needle removed.

Arm-to-tongue circulation times were determined on 50 normal subjects, the average times of the subjects as a single group varied from 9.8 to 10.3 seconds for the initial and duplicate determinations, respectively. Further studies are being made to determine which components of the B complex are responsible for the distinctive end point.

—Am. Heart J. 32: 612 (November), 1946

HAVE you seen the interesting report on "Organizing a Local Branch" presented by Walding G. Rupp at the 1946 convention of the ASSOCIATION? Mr. Rupp is secretary of the Northwestern Ohio Branch. The account of his branch's experience should provide inspiration and a number of useful ideas to less active branches or to groups planning a branch organization. Copies have been sent to active branches and additional copies are available from the A. PH. A. headquarters.

If your secretary hasn't discussed the annual report by the A. PH. A. Committee on Local and Student Branches at a branch meeting, watch for it in the annual proceedings of the ASSOCIATION to be published soon. The healthy state of the A. PH. A. branch program shows up in the fact that there has been a 300% increase in the number of local and student branches during the last decade. Yet, there are still many places where local branches should be organized to supplement our organized professional program, and a number of colleges also have not established student branches.

Due to erratic submission of reports from some branches only a small percentage of the total number active is usually represented in this column. If, somehow, A. PH. A. headquarters can receive more complete reports it would mean greater recognition in the JOURNAL for those who are contributing so much to professional pharmacy through organized programs. It would also provide better interchange of ideas for the sometimes hard-pressed program committees.

Speaking of programs, your national headquarters hopes that every local and student branch will plan a special program in connection with National Pharmacy Week, April 20–26. The National Pharmacy Week Committee looks to branch members to take the lead in sponsoring local participation. Every branch member will want the professional Pharmacy Week display and a supply of Pharmacy Week leaflets, which are available from the National Pharmacy Week Committee on request.

The Committee would also like to see every branch enter the new public exhibit division of the display competition. Entries are eligible from any pharmacist or group of pharmacists—including A.PH.A. branches—that installs a professional exhibit in some public place other than a pharmacy. Send the photographs of entries to the secretary of your state pharmaceutical association. Displays in retail pharmacies of course come under another division of the contest in competition for the Robert J. Ruth trophy.

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LOCAL BRANCHES

Many A. PH. A. members have already obtained their copies of the new National Formulary which represents a major contribution of their ASSOCIATION to scientific pharmacy and to the American public. The need for discussion and understanding of the many changes and new formulas in N. F. VIII was recognized by the **New York Branch** when it invited Dr. C. Lee Huyck, now of Columbia University College of Pharmacy, to give a talk on the N. F. at the February session and lead a discussion of the subject.

On the other side of the nation, the **Northern California Branch** heard Dr. Robert E. Aird of the University of California Medical School discuss "Anti-Convulsant Drugs" at the January meeting. At a previous session, members heard a discussion of new pharmaceutical formulating agents by Jerome M. Yalon, assistant chief pharmacist of the University of California hospital. Mr. Yalon stressed the usefulness of various wetting agents, upon which he has conducted considerable research, and presented formulas to indicate the uses of wetting agents in preparations.

From one of our most remote branches, the **Canal Zone Branch,** comes an announcement of election results for 1947 officers. Successful candidates were William Grady, president; Lynn Light, vice-president; Everett Kimmel, secretary; and W. Waylones, treasurer.

"Non-Ionic Emulsifiers in Pharmaceuticals and Cosmetics" was the topic for discussion at the January meeting of the **Baltimore Branch,** with W. C. Griffin of the Atlas Powder Co. as guest speaker. Branch members have elected the following officers for 1947: Dr. Irvin Freed, president; Dr. George P. Hager, vice-president; and Frank S. Balassone, secretary-treasurer.

Especially well attended meetings are being held by the **Chicago Branch** this year. In December the Branch welcomed as guests the members of the student branch at the University of Illinois. Dr. R. W. Gerard of the University of Chicago presented "A Report on a Medical Mission to Czechoslovakia." Paul A. Jenkins discussed the objectives of the Chicago Technical Societies Council, of which the A. PH. A. Chicago Branch is a member. Branch Secretary H. L. Davis raises the provocative question as to whether or not the Chicago Branch is not the only branch of the ASSOCIATION to hold membership and participate in its local Technical Societies Council. Raymond Dauphinais also spoke at the joint session, discussing the work of the University of Illinois Student Branch of which he is president. At each meeting this year Charles Lanwermeyer discusses "What's New in Pharmacy" and Beryl Benton comments on "Prescription Problems." New officers for the 1947–1948 term to be installed

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at the May meeting are: S. D. Gershon, president; Paul Soderdahl, first vice-president; R. F. Voigt, second vice-president; B. E. Benton, third vice-president; H. L. Davis, secretary-treasurer; Louis Gdalman, chairman of the Committee on Membership; Samuel Shkolnik, chairman of the Committee on Legislation; G. L. Webster, chairman of the Committee on Practice; F. T. Maher, chairman of the Committee on Medical Relations; E. H. Wirth, chairman of the Publicity Committee and G. L. Webster, delegate to the House of Delegates.

At the fourth winter conference of the Michigan Academy of Pharmacy, sponsored by the A. PH. A. **Michigan Branch,** the principal speaker was Dr. James C. Munch, consulting pharmacologist of Upper Darby, Pa., who discussed new drugs of interest to the pharmacist.

An effective approach to better programs is typified by the long range planning of the **Northern New Jersey Branch** to schedule in advance an integrated program for the entire 1946–1947 series of meetings. In January, Branch members heard Bert Mull of Eli Lilly and Co. discuss "The Pharmacist and the Pharmaceutical Manufacturer."

For the February program, Dr. Paul C. Olsen was scheduled to discuss "The Pharmacist and Economic Trends," and speakers for the remaining programs of the series were to discuss "The Pharmacist and Refresher Courses," "The Pharmacist and Pharmaceutical Research," and "The Pharmacist and His Community."

Particularly informative reports from Secretary Frank J. Pokorny of the **New York Branch** continued to reveal strong programs and good attendance. One hundred twenty members and friends were present when President Fred D. Lascoff called the January meeting to order. The scientific session of the meeting was devoted to an address by Dr. Edmund J. Foley, medical director of the Winthrop Chemical Co., on "Synthetic Analgesics," which was followed by extended discussion from the floor. Dr. Foley commented on the uses, relationships, and pharmacology of various synthetic analgesics and reviewed the evolution of research in this field leading to development of Demerol, and to Amidon—a still newer compound now undergoing intensive investigation. Following the reading of communications from the national A. PH. A. headquarters the New York Branch received the report of its nominating committee and elected the following officers for 1947: Gustave Bardfeld, president; Charles H. Soren, vice-president; Harry Kaye, treasurer; Frank J. Pokorny, secretary; Frederick D. Lascoff, chairman, Committee on Membership; Dr. C. Lee Huyck, chairman, Committee on Professional Relations; Victor Lewitus, chairman, Committee on Progress of Pharmacy; Samuel A. Dreyer, chairman, Committee on Education and Legislation; Leonard Steiger, chairman, Committee on Audit; Dr. Hugo H. Schaefer, secretary, Remington Medal Committee; Dr. Curt P. Wimmer, delegate to the House of Delegates; and Florenz S. Birnbaum and Irving Rubin, co-chairmen of the Program Committee.

At a previous meeting the guest speaker was Irving Rubin, Branch member and technical editor of *American Druggist*, who discussed "Pharmacy and Some Problems of Tomorrow."

Across the state the **Western New York Branch** recently held a joint meeting with the Western New York Retail Druggists Association. William Arndt, member of the State Board of Pharmacy, spoke on the functions of the Board and discussed various types of violations that have recently been acted upon. Representatives of the Biel Photocopy Service spoke on the use of microfilm to preserve prescription files and demonstrated microfilm viewers. State Association President Charles Mulloy urged members to secure the special auto license plates carrying an identifying pharmacy symbol, which were authorized in New York this year for the first time.

At the February meeting of the **Northwestern Ohio Branch,** Dr. Bernard Steinberg of the Toledo Institute of Medical Research discussed "Modern Problems of Cancer." Dr. Steinberg stressed the importance of carcinogenic substances, referring to investigations at his own institution and illustrating his talk with lantern slides. Officers installed at the meeting for the 1947 term were: Joseph E. O'Donnell, president; L. T. Olmstead, vice-president; Walding G. Rupp, secretary; Carlton J. Siegel, treasurer; and Eugene B. Imhold, Casimer M. Lenga, and Jason P. Ott, directors. Fifty-one ballots were cast. The following committee chairmen have been appointed: Eugene B. Imholt, Professional Relations; Casimer N. Lenga, Program; and Jason P. Ott, Membership.

How pharmacy is practiced in a U. S. territory, the island of Puerto Rico, was discussed at a recent meeting of the **Pittsburgh Branch** by Dr. Edward P. Claus of the University of Pittsburgh School of Pharmacy, who spent a year on the faculty at the University of Puerto Rico School of Pharmacy.

Continuing its policy of topnotch programs, the **Philadelphia Branch** secured Dr. Austin Smith, secretary of the Council on Pharmacy and Chemistry of the American Medical Association, as guest

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speaker for the January meeting. Dr. Smith discussed "Drug Therapy in the Future," predicting that the next decade will bring medical advances almost as startling as those revealed during the past ten years. He referred particularly to the broad program which lies ahead in developing the use of radioisotopes in pharmacy and medicine.

Looking ahead to the centennial of the founding of the AMERICAN PHARMACEUTICAL ASSOCIATION, the Branch is exploring the feasibility of inviting its parent organization to Philadelphia for the 1952 convention. In discussing this prospect Branch members recall that the Quaker City was the site of the meeting in 1852 at which the AMERICAN PHARMACEUTICAL ASSOCIATION was formally organized.

STUDENT BRANCHES

It is gratifying to read the enthusiastic student branch reports coming into A. PH. A. headquarters from crowded colleges throughout the country. Their activities and the sky-rocketing associate membership rolls constitute evidence that today's students are keenly interested in the high professional objectives of the A. PH. A.

Typical of the growth of student branches is the report from Membership Chairman Richard Stoltz of **Western Reserve University** who reports a gain of 60% over last year. Enthusiasm ran high at the first meeting of the new year when plans were made to develop a program for bringing about closer relationships between students of pharmacy and allied professions. Future activities were planned, to include several meetings devoted to lectures and group discussions on professional topics, and inspection tours of nearby pharmaceutical plants. President Edward Chevrier appointed Gene Kupchewich and Rose Fronkowiak to work with respresentatives from the student council to plan a jointly sponsored "prom." Indication that pharmacy students do some independent thinking in regard to what their curriculum should offer was a vote to recommend to the Dean that a course specifically covering "New and Nonofficial Remedies" be inaugurated.

Farther south in Ohio, the **Ohio State University Student Branch** is proudly displaying "The Spur," a printed publication perhaps more elaborate than any branch has attempted thus far. According to Editor Frances Spellman much of the credit for establishing "The Spur" should go to Faculty Advisor L. David Hiner and to Dick Solove who solicited advertising during his summer vacation. Editor Spellman pledges maintenance of professional standards in the O. S. U. Branch publication and a balance between student contributions and faculty-written material. The Ohio State Branch is fortunate to have the printing plant of Rand P.

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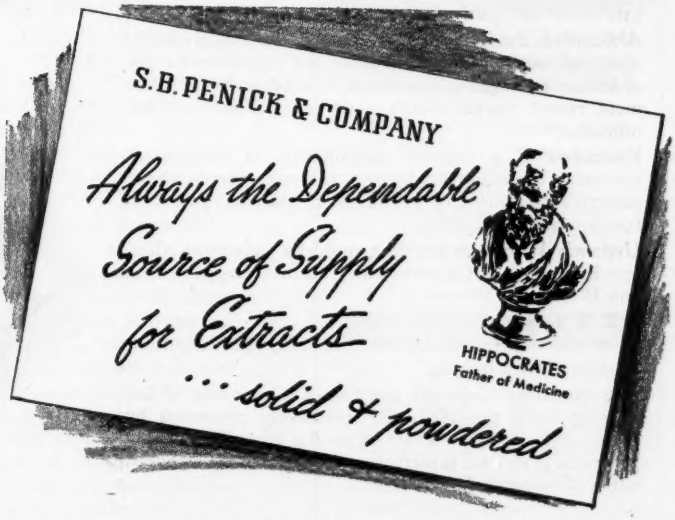

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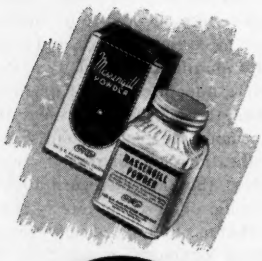

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The first meeting of the Ohio State Student Branch in 1947 was marked by an address by Dean Brunner of the College of Commerce, who analyzed operations in a typical drugstore and divided them into 12 groups. According to Dean Brunner's evidence, an analysis of personnel duties in the typical drugstore shows that prescription work occupies 23.94% of the time, selling 24.11%, handling stock 10%, maintenance work 3%, fountain work 2.5%, service and cash 1.25%, personal interests 1%, and idle time 2%.

At the **University of Mississippi,** the A. PH. A. Student Branch has been going forward under the leadership of President Lewis Nobles, Vice-President James Cherry, and Secretary-Treasurer Joy Ford. The Branch has organized a basketball team under the guidance of Wayne Fancher. At the December meeting the membership voted to obtain A. PH. A. identification pins, dividing the cost between the Branch treasury and individual assessments. The University will be made more aware of the A. PH. A. branch through a page the organization has taken in the year book.

One of the progressive pharmacists of Ohio, A PH. A. Member C. R. Bundt of Toledo brought the benefit of his professional experience to members of the **University of Michigan Student Branch** at the January meeting, where he showed a color film illustrating the development of his two professional pharmacies, and accompanied it by a running commentary. One of Mr. Bundt's associates, R. W. Huepenbecker also gave a talk, stressing the economic value of small-scale manufacturing in a pharmacy. Members from the Bundt pharmacies have been increasingly active in A. PH. A. affairs, and it is particularly gratifying to see successful practicing pharmacists sharing their experience with future pharmacists through the student branches.

Secretary Rosetta T. Amodeo of the **Massachusetts College of Pharmacy Branch** reported an interesting December program presented by student members. Miss Jane Carlton spoke on "Infantile Paralysis"; Paul Honda gave a talk on typhoid fever, using as his theme the interesting story of "Typhoid Mary." A number of student branches are becoming more aware of the interest and value of programs put on by their own members. This has the two-fold advantage of giving future pharmacists experience in preparing and delivering professional papers, and of bringing to the membership timely material in which they are especially interested. The January meeting at Massachusetts College featured a motion picture on "The anatomy of the Ear," a production sponsored by the Auralgam Research Division of the Doho Chemical Co., New York. The showing was preceded by comments on the subject by Robert A. Walsh, physiology instructor.

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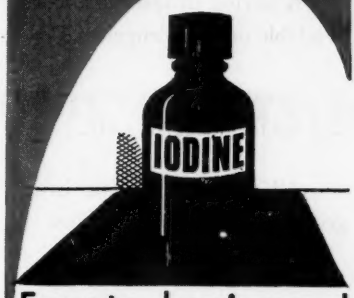

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The **University of Illinois Student Branch** looks forward to increased meeting attendance now that the Pharmacy College schedule provides an hour each week when all students will be free, and the Branch sessions are being scheduled during this period. Another membership drive is currently under way, headed by President Ray Dauphinais. At the January meeting Dr. H. L. Davis, secretary of the A. PH. A. local branch in Chicago, discussed with the student members the importance of being a student member of the AMERICAN PHARMACEUTICAL ASSOCIATION. Betty Knauss, editor of the new student pharmacy newspaper sponsored by the Illini Branch discussed publication plans, reporting that the first issue was expected to be off the press early in February. Last December the student branch members were guests at a joint meeting with the Chicago Branch of active members. Such events could well be scheduled more frequently wherever A. PH. A. local and student branches are neighbors.

The latest advocate of interspersing student programs with those by guest speakers is the **Ferris Institute Student Branch,** where members recently presented papers on the sulfonamides, pertussis biologicals, and lipoids. The reports were followed by lively discussion from the floor. At the February meeting Ferris Institute students viewed two interesting films, one by the Upjohn Laboratories on "Plant Processes" and the other on cancer control. This program was open to all pharmacy students at the Institute and was well attended, Secretary Winifred Orr reports. President Virginia Curtiss has appointed committees that are currently planning for the special banquet sponsored by the Branch for the student body.

At a meeting of the **State University of Iowa Branch,** Secretary Dal Brunner of the Iowa Pharmaceutical Association explained the purposes and goals of the state association and invited the students to attend the February state convention. Plans have been under way for the Branch sponsored "Pharmacy Prize Prom" to be held in March. Anne Peterson, Virginia Wagener, Avonella Rosheim, Jack Pote, Beverly Carlson, and Edna Mellick head the committees to make necessary arrangements. Anne Peterson is also serving this year as the Student Branch representative to the Union Board, Secretary Marion Kirby reports.

New officers elected by the **Fordham University Student Branch** are Leonard Berger, president; Arnold Lentz, vice-president; Grace Phillips, secretary; and Bridie Henry, treasurer.

Word comes from the **University of Colorado** concerning the excellent contribution of the A. PH. A Student Branch there to the "Pharmacy Day" observance sponsored by the College of Pharmacy last semester. Mickey Terasaki received special commendation for his work as head of the Branch group that installed several professional exhibits.

Have you sent in a report, Mr. Secretary? Your branch deserves regular mention in this column.